

\$5.00 THE YEAR

50 CENTS THE COPY

ART AND ARCHAEOLOGY

An Illustrated Monthly Magazine

Published by THE ARCHAEOLOGICAL SOCIETY

OF WASHINGTON, AFFILIATED WITH THE

ARCHAEOLOGICAL INSTITUTE OF AMERICA.

ART AND ARCHAEOLOGY PRESS, Inc.

VOLUME XIV

SEPTEMBER, 1922

NUMBER 3

DIRECTOR AND EDITOR
MITCHELL CARROLL

BOARD OF DIRECTORS
J. TOWNSEND RUSSELL, *President*
FRANK SPRINGER, *Vice-President*
MITCHELL CARROLL, *Secretary*
JOHN B. LARNER, *Treasurer*
R. V. D. MAGOFFIN
Ex-officio as President of the Institute
ROBERT WOODS BLISS
EDWARD CAPPS
MRS. B. H. WARDER
WALTER C. CLEPHANE, *Counsel*



ART EDITOR
WILLIAM H. HOLMES

EDITORIAL STAFF
VIRGIL BARKER
HOWARD CROSBY BUTLER
CHARLES UPSON CLARK
ALBERT T. CLAY
CHARLES T. CURRHILLY
H. R. FAIRCLOUGH
EDGAR L. HEWETT
FISKE KIMBALL
DAVID M. ROBINSON
HARVEY M. WATTS
HELEN WRIGHT

CONTENTS

THE CHACO CANYON IN 1921	Edgar L. Hewett	115
Eighteen Illustrations		
AN INDIAN BURIAL MOUND (Poem)	E. B. Cook	131
A NAVAHO FOLK TALE OF PUEBLO BONITO	Lulu Wade Wetherill and Byron Cummings	132
THE SCIENTIFIC AESTHETIC OF THE RED MAN:		
II. The Fiesta of San Geronimo at Taos	Marsden Hartley	137
RECENT ARCHAEOLOGICAL DISCOVERIES IN TENNESSEE	William Edward Myer	141
Eleven Illustrations		
THE PIASA PETROGLYPH: THE DEVOURER FROM THE BLUFFS	Tom English	151
THE FLINT MAKER (Poem)	Hartley B. Alexander	156
NOTES FROM THE GALLERIES		157
CURRENT NOTES AND COMMENTS		163
BOOK CRITIQUES		166

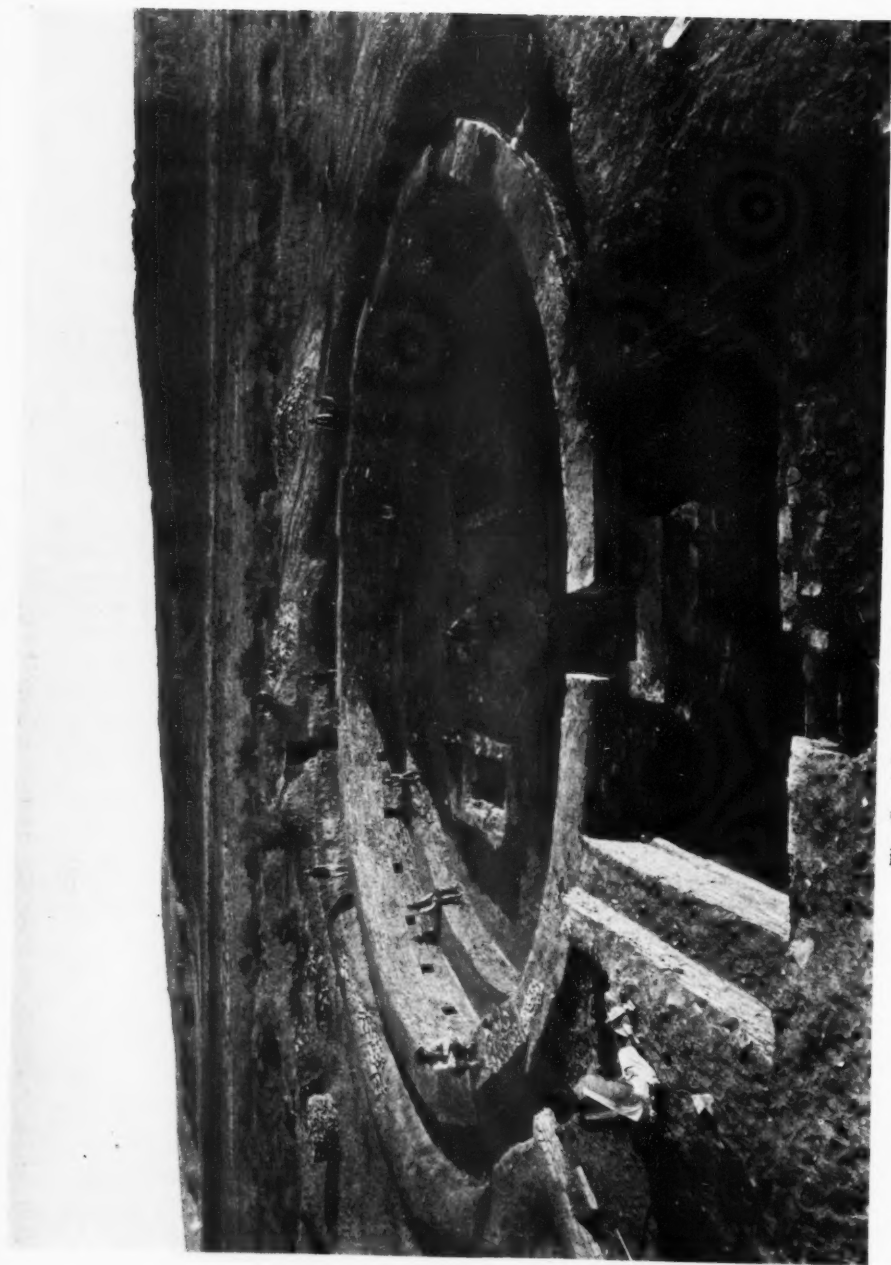
TERMS: \$5.00 a year in advance: single numbers, 50 cents. Instructions for renewal, discontinuance, or change of address should be sent two weeks before the date they are to go into effect.

All correspondence should be addressed and remittances made to ART AND ARCHAEOLOGY, the Octagon, Washington, D. C. Also manuscripts, photographs, material for notes and news, books for review, and exchanges, should be sent to this address.

Advertisements should be sent to I. Carlisle Lord, Advertising Manager, 786 Sixth Ave., New York, N. Y., the New York Office of ART AND ARCHAEOLOGY.

Entered at the Post Office at Washington, D. C., as second-class mail matter. Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized September 7, 1918.

Copyright, 1922, by the ART AND ARCHAEOLOGY PRESS.



The Great Bowl at Chettro Ketl. Looking South.

ART *and* ARCHAEOLOGY

The Arts Throughout the Ages

VOLUME XIV

SEPTEMBER, 1922

NUMBER 3

THE CHACO CANYON IN 1921

By EDGAR L. HEWETT

THE Chaco Canyon, from a purely scenic standpoint, is not particularly impressive. It has not the picturesque beauty of the Rito de los Frijoles, nor the color of the Canyon de Chelly. One readily thinks of a dozen canyons in the Southwest to which it is not comparable in many respects. In that of human associations, however, it is without a parallel. Silence brooded here for ages, then was broken by the voices of humanity for some centuries, and then again the silence, more poignant than that of wastes that have remained forever uninhabited. The panorama of those human centuries rolls before the mind. Another trial at life and another failure. Generally it has been man's privilege to transform the earth at will. Mountains are honeycombed with mines; plains and forests have yielded to agriculture; cities have sprung from primeval swamps. Even the sea has been brought into the service of commerce. Here for a millenium man wrought and

made these monuments to his vast endeavors, but on the country made no visible lasting impression. The desert remains unmastered.

The Chaco is nowhere more than a mile wide. Its channel is eroded through the sandstone cap, which covers the entire region to a depth of more than two hundred feet. Its level floor of rich, black soil, of high fertility when watered, is cut by an arroyo twenty to thirty feet deep which is always dry except in unusually rainy seasons when there may come a flow for a few hours at a time, or even a few days, from the slopes of the continental divide to the east. Lieutenant Simpson speaks of it as a flowing stream in his report of Colonel Washington's expedition in 1849. The summer of 1921 was one of continuous rains for weeks so that there was again witnessed, for the first time recorded in many years, a steadily flowing stream in the Chaco.

The Chacra plateau, tree-less except for stunted cedar and pinon and a few



Leaning Cliff at Pueblo Bonito. From the East.

gnarled pine that show intense struggle for existence, has an average elevation of 6500 feet. It is marked by shifting sand drifts, broad dry washes, plains sparsely covered with grass and the characteristic sage brush of the Southwest. There are some rattlers, adders and gopher snakes. Small flocks of sheep and goats graze in and about the canyon. There is little to attract the permanent settler. The trader has come and gone. The fore-loper has been here, has felt the pressure of impending civilization—a neighbor or two coming in thirty to forty miles away—and sought greater solitudes. Two or three Navaho families live in the seven miles of canyon here considered or in little side canyons near the trickle of water. That is the extent of the popu-

lation today. Here are the ruined houses—enormous community structures of stone—which sheltered thousands of people in times long past. Here are their abandoned fields, irrigating ditches, sanctuaries, stairways, picture writings, graves, relics of vast activities—wrapped in the silence of ages.

A BIRD'S-EYE VIEW

From an eminence to the south it can all be seen. The view shown in Mr. Chapman's excellent drawings must have been an inspiring one in the ancient days, as it is now one to awaken profound awe. Bonito, the beautiful, foremost among the towns in point of size, occupies the center of the picture. It was not as beautiful as its neighbors,

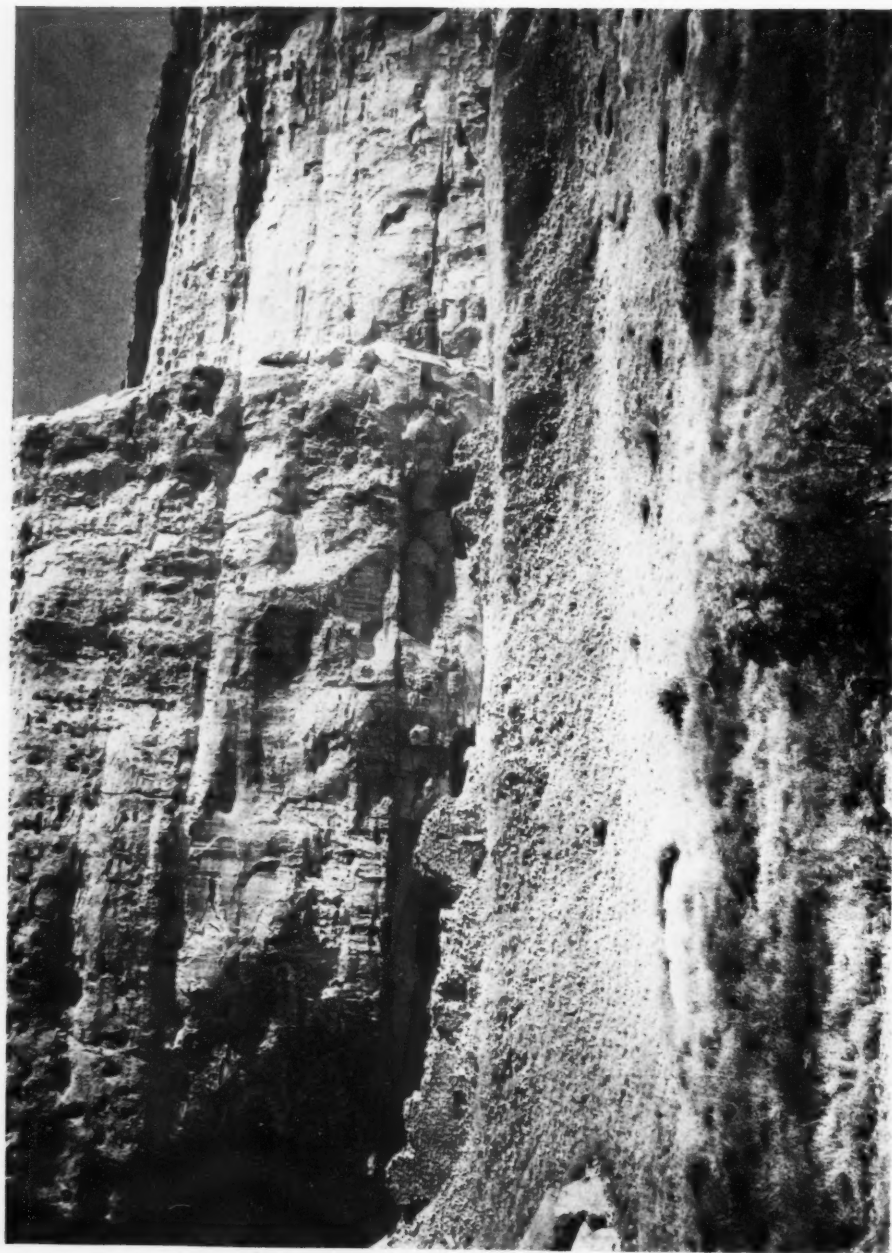


Leaning Cliff at Pueblo Bonito. From the West.

Chettro Ketl and Pueblo del Arroyo, but its vast size, the great sweep of its curving walls, the variety in styles of masonry, the evidences of development through long successive periods make it a most impressive sight. Chettro Ketl, the Rain Pueblo, with its fine curving façade, inner towers, immense sanctuary within its court and a half-dozen adjacent smaller structures must have been one of the most striking buildings in ancient northern America. The entire site almost exactly equals in extent that of the palace site at Knossos in Crete. Each covers about six acres. To the left of Bonito lies Taba Kin (Pueblo del Arroyo), in the foreground the great sanctuary of Rinconada, and on the northern skyline a mile away looms Pueblo Alto, traditionally the

house of the Great Chief. It is a panorama of ruins that recalls the most noted places of antiquity in the Old World.

The question continually forces itself forward why such tremendous buildings and so many sanctuaries for so few people. All the buildings ever erected by the entire Navaho tribe, easily three times as many people as the Chacones ever numbered, would in volume equal only a small fraction of the structural work in the narrow Chaco canyon. The interesting suggestion has been made that the human animal manifests characteristics similar to those of other animals, insects, birds, etc., in which there is an instinctive impulse to action, an expenditure of vital force beyond the necessities of life, this impulse being so



Ancient Terraces protecting base of cliff from erosion.

ART AND ARCHAEOLOGY

imperative and often carried so far as to work great harm to the species. So this vital impulse of the sedentary peoples of the American Cordillera, from New Mexico to Peru, spent itself perhaps in building vast community houses, sanctuaries, temple-pyramids, along with the correlative activity of religious ceremonials, which were incessantly practiced with prodigious zeal. In this connection I have ventured to suggest that this theory supports the idea of the contemporaneity of these cultures, that this building impulse would pass from one community to another, just as in our own time a fad started in one city is imitated in others and eventually extends over the entire country.

Readers of this magazine will recall the extended description of the Chaco Canyon ruins in the January-February number, 1921. That account should be re-read at this time. It will then be unnecessary to repeat the description of this interesting region, the story of the investigations that have made it known, the picture of the ruined towns, or to further describe the particular site, Chetro Ketl, where the excavations were inaugurated in 1920.

THE SURPRISES OF THE CHACO

The Chaco is a region of surprises. In an area of unusually definite, matured culture it presents endless variations from type. As was shown in the article above referred to, a simple architectural form prevails in the buildings throughout the district, but towns developed strong individual characteristics not to be seen at all in our villages. Recall the great sweeping curved front wall of Chetro Ketl; in Pueblo Bonito the back wall forming a similar wide curve; in Peñasco Blanco both front and back walls curved, making

the building elliptical in its ground plan. The illustrations of masonry heretofore shown express a fine play of imagination in elementary construction not met with in our prosaic brick and stone laying.

The excavation of Pueblo Bonito by the Hyde Exploring Expedition, 1896-1900, laid bare an astonishing number of variants from the two conventional forms of rooms, rectangular and circular;¹ these aberrations, however, being not a result of deliberate planning but incident to the unplanned growth of Pueblo Bonito at the hands of successive generations of builders.

Mr. George Pepper, Field Director for the Hyde Exploring Expedition in the excavation of Pueblo Bonito, has described some of the surprising finds that have stamped the Chacones as a people much out of the ordinary as, e. g., in room 28, one hundred and fourteen cylindrical jars of a type found nowhere else in the Southwest;² in room 33, among a great number of interesting articles, a cylindrical basket covered with a mosaic of 1214 pieces of turquoise;³ and in room 38 the remarkable ornaments of jet inlaid with turquoise,⁴ frog, tablet and buckle, which are among the most precious treasures of American Archaeology.

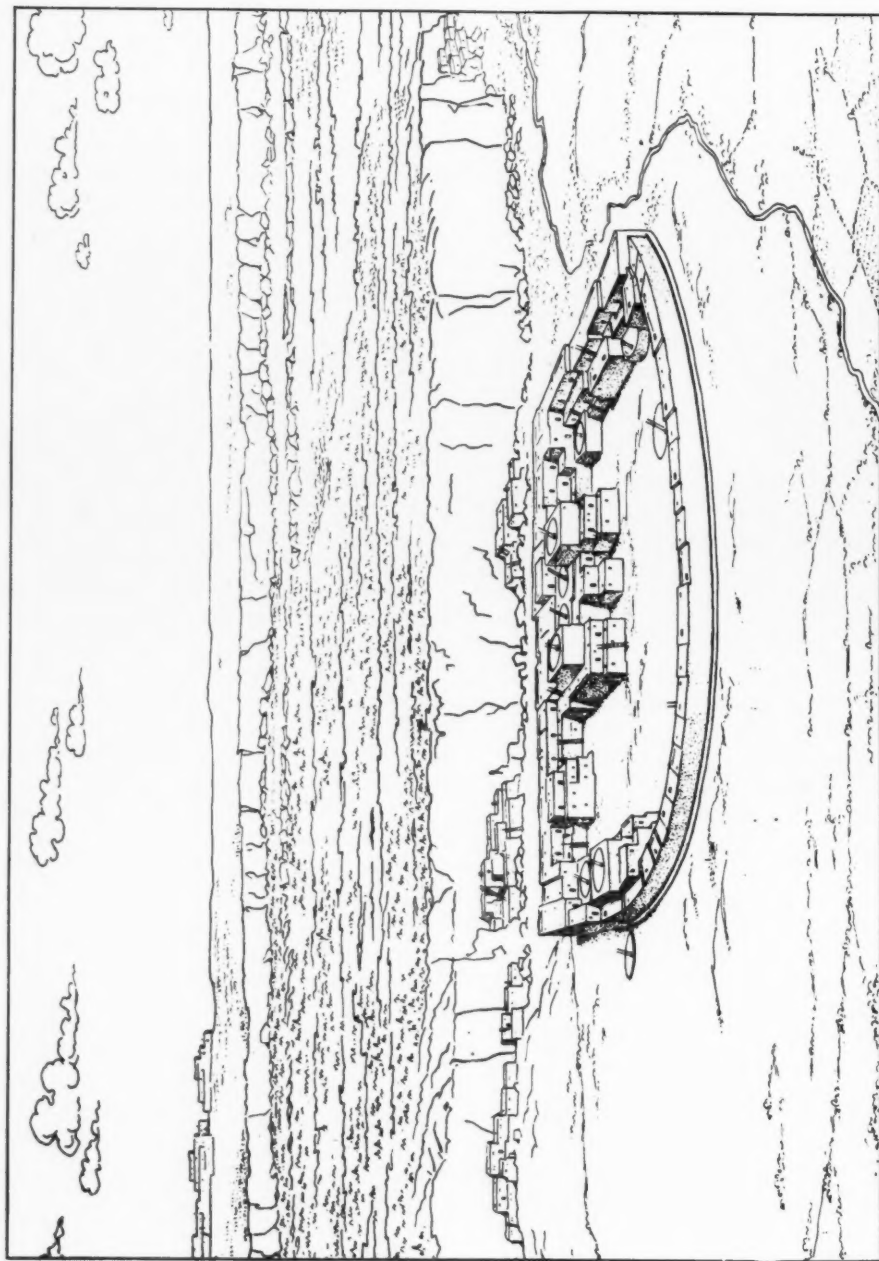
In our excavations of 1920 at Chetro Ketl we learned that the unexpected must constantly be counted on. The walled trench outside the great curved front wall was an entirely new feature in ancient Pueblo architecture. The labyrinth of kivas inside the main court lacked in almost every single example the conformity to type throughout which is so characteristic

¹See ground plan of Pueblo Bonito, after Holsinger, *ART AND ARCHAEOLOGY*, January-February, 1921.

²*Anthropological papers of the American Museum of Natural History*, Vol. XXVII, 1920.

³*Putnam Anniversary Volume*, pages 196-252 (1900).

⁴*Ceremonial Objects and Ornaments from Pueblo Bonito*, N. M., *American Anthropologist*, N. S., Vol. 7, pages 183-197 (1905).



Chettro Kett and its Environs (Restored). Drawn by Chapman.



Beginning the Excavation of the Great Sanctuary.

of the kivas of the San Juan drainage generally. On the Mesa Verde National Park and along the lower San Juan the kivas, which exist in large numbers, sometimes thirty or more in a single village, are of sufficient uniformity to warrant the designation of a "San Juan type." At Chetro Ketl no two are alike in all respects. Along with these are numerous cists, vaults and pits for which we have little precedent. There is something new to keep the archaeologist guessing every day.

THE GREAT BOWL

Adjoining the area of kivas above referred to, on the west, was a shallow depression of considerable diameter. It is indicated on the rough ground plan of Chetro Ketl published in the account of the excavations of 1920. This

has been variously referred to by writers who have described these ruins as a reservoir, a natural depression and a large kiva. As it was contiguous to the kivas last uncovered it was thought best to make it the first work of the season of 1921. It proved to be one of the surprises for which we have become accustomed to look in the Chaco. It proved to be a structure of first importance, and instead of requiring only the beginning of the season for excavation actually occupied the attention of our entire force for the whole period of the excavations.

The general reader will not care for the details of construction and measurement which will be brought out at length in the final report of this work. The accompanying illustrations will give a fair idea of this great bowl with-



Progress of Excavations.

out much additional description. Its average diameter is $62\frac{1}{2}$ ft. Probably three-fourths of its depth was subterranean. The wall is in the best Chaco Canyon masonry and averages about three feet thick. A bench of solid masonry averaging $3\frac{1}{2}$ ft. in width and 4 ft. high extends around the inside of the bowl, except where broken by a recess about $2\frac{1}{2}$ ft. wide on the south and by a stairway on the north which ascends to a rectangular antechamber. It seems likely that the walls of the main structure were elevated about three feet above the plaza level outside. It cannot as yet be determined whether the antechamber on the north, which was a rectangular room having an inside dimension of about 15×23 ft., was built up to the full height of a one-story dwelling or

not. This antechamber would appear to have been something of unusual importance, as indicated by the finishing of the walls. The masonry forms a narrow bench on the inside and the room has been finely plastered in what is now a good old ivory tint. It has a solidly packed floor of adobe. There is nothing to indicate how the antechamber was roofed. A massive bench occupies the south side of the chamber from the top of which one may descend into the great circular room. Seven wooden steps formed this stairway. They were partially rotted out and therefore were replaced by new ones intended to duplicate the original as nearly as possible. From the base of the stairway a stone landing extends from which two steps brings one to the floor of the great circular room.



The Antechamber Finished.

In looking at the photograph of this circular chamber, one gains the impression that the wall was pierced by small square windows, at regular intervals apart. However, the wall is not entirely pierced, so these may be spoken of as niches rather than windows. They are twenty-nine in number and average roughly about a foot square. At the base of the massive bench, which averages $3\frac{1}{2}$ to 4 ft. high, is to be seen portions of a smaller bench elevated only a few inches above the floor. This may have originally extended the whole distance around the room, but only fragments of it are left. The main bench is in an almost perfect state of preservation and the walls have required very little repair to put them in condition to last for ages.

On the floor of the circular room are two rectangular pits inclosed in walls of solid masonry. The outer wall of each is more than double the thickness of the inner wall. They were found almost filled with ash and charcoal. Thorough examination of the contents disclosed no bones or other articles that could be identified. Everything that had gone into these fire-boxes had been completely incinerated. The inside dimensions of the pits are roughly $4\frac{1}{2}$ x 8 ft. They were floored with stone laid in adobe. The height of the pit walls above the floor of the main chamber would average about 15 inches. Their average depth was about $3\frac{1}{2}$ ft.

In the floor of the main chamber, plainly seen in the photographs, are



The Great Bowl Excavated. Looking North.

four holes, 26 feet apart, forming an exact square, averaging 4 ft. deep, ranging in diameter from 21 to 46 inches. The largest, which may be seen at the south end of the fire-pit on the left looking toward the stairway, is lined with masonry and floored with a slab of sandstone. The others are floored with broken rock. In these holes rested enormous columns which supported the roof. These probably stood not less than 12 feet high. The base of one of the columns remained in place and is shown in the picture. It was a pine log, 26½ inches in diameter. So far as I know this is the largest timber that has been found in the Chaco buildings. Unfortunately, it is so far decayed that it cannot be preserved.

Between the two fire-vaults stands a

solid mass of masonry slightly more than 5 feet square. It is still 18 inches high and has probably been considerably reduced since the structure fell into ruin. For lack of any better term, it may be spoken of as an altar. Slightly over a foot away from it to the south is a ruined fire-pit, roughly circular, quite shallow and nearly 5 feet in diameter.

Remains of sufficient timbers were found to show that the chamber was roofed, at least in part. Heavy logs rested on the tops of the columns, thus forming a perfect square over the central part of the chamber, which may have remained open to the sky. Smaller logs or vigas extended from these heavy girders to the stone rim. These were probably laid from two to three

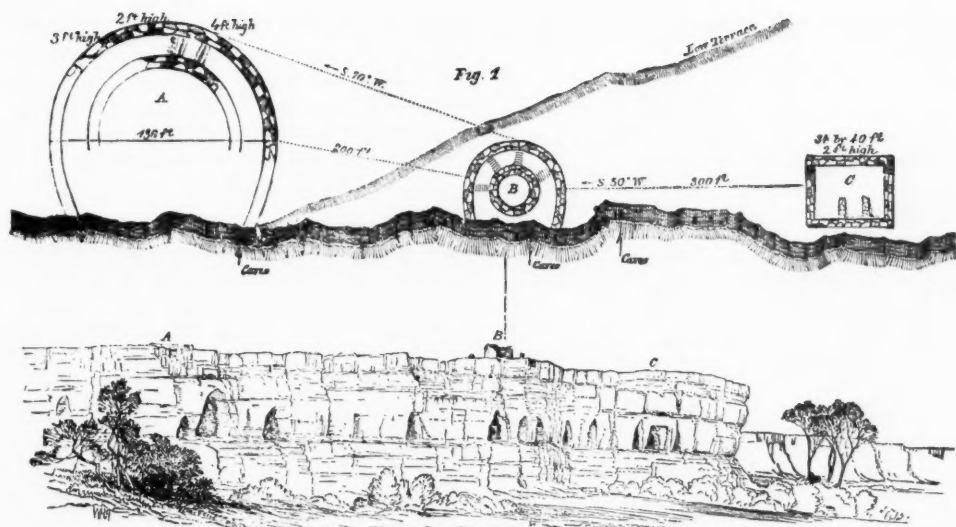


Fig. 2.

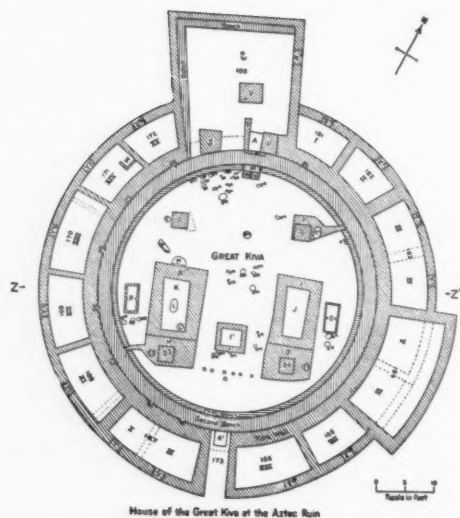
Double Walled Towers on San Juan River. From Report by Wm. H. Holmes, 1876.

feet apart. Lighter poles were laid across these after the manner of some of the ceilings shown in the illustrations of this article. These in turn were covered with slabs of cedar upon which cedar bark was laid and the whole solidly covered with adobe.

We have then uncovered one of the most remarkable structures known to the archaeologist of the Southwest. It is probable that Casa Rinconada, which we propose to excavate in the fall of 1922, will almost exactly duplicate this. It may even be a few inches greater in diameter, and is isolated from any important building. A similar one was excavated in Pueblo Bonito by the Hyde Exploring Expedition and has been re-excavated by the National Geographic Society. Its diameter is about ten feet less than that of the great bowl in Chetro Ketl and it is lacking in other interesting features. Others will probably be found in the towns of the Chaco and in time enough

evidence may turn up to warrant an explanation of their uses. In the absence of any knowledge to the contrary, they have been considered highly specialized kivas. Perhaps for the present it may be permissible to speak of them as the "greater sanctuaries," in order to differentiate them from the kivas of normal type and dimensions. It should be frankly stated, however, that no one could as yet speak authoritatively of their uses. The one herein described has unquestionably been subjected to great heat, not such as would have been caused merely by the burning out of the roof timbers. The pits in the floor are true fire-vaults, the stone lining being thoroughly baked by long continued heat. They are large enough to have served for the roasting of a whole buffalo and they would have served perfectly for the incineration of the dead. The adobe floor of the room from the fire vaults to the wall was in many places thoroughly baked and the

ART AND ARCHAEOLOGY



From Report by Earl H. Morris, 1921.

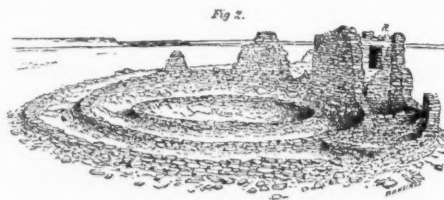
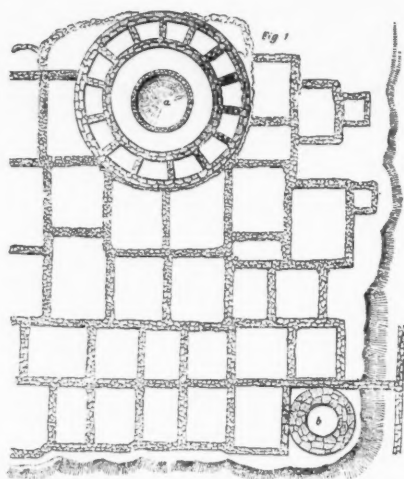
circular walls, especially those of the massive bench and in places the upper zone, were deeply scorched with the heat, even the sandstone under the plaster being browned to a considerable depth below the surface.

SAN JUAN RELATIONS

It seems not unlikely that the structure excavated at Aztec on the San Juan river, by the American Museum of Natural History, is a variant of the type herein described. It has been designated by Mr. Earl Morris, who excavated it, as the House of the Great Kiva. From his report¹ I quote the following paragraphs: "The House of the Great Kiva is essentially circular in form and is composed of two distinct parts; an inner circle, the kiva proper; and an outer circle which is, in reality, a concentric ring of arc-shaped rooms. With reasonable accuracy the building may be likened to an enormous wheel, of which the kiva, though dis-

proportionately large, is the hub, and the spaces between the stubby spokes the rooms of the encircling ring. The hub of the wheel is let down into the earth sufficiently so that the spokes and rim rest upon the last used level of the court, thus making what remains of the kiva subterranean, and the enclosing chambers above ground in the relation shown by the accompanying cross-section.

"The diameter of the kiva at floor level is 41 feet 3½ inches, and 3 feet above the floor, 48 feet 3½ inches. This difference is due to the presence within the bounding wall of two concentric rings of masonry indicated in the ground plan as the first bench and the second bench. The first bench is



Triple-walled Tower on the Mt. Elmo. From Report by Wm. H. Holmes, 1876.

¹Anthropological Papers of the American Museum of Natural History, Vol. XXVI, Part 2 (1921).

ART AND ARCHAEOLOGY



Base of Great Column.

one foot in width. Because of the unevenness of the floor along its eastern arc, this bench lies entirely beneath the former, while at the west side 6 inches of it are visible. The second bench averages 2 feet 6 inches in width, and 1 foot 6 inches in height. Both benches, though somewhat irregular, are continuous, being broken by no niches or recesses whatsoever. The kiva wall varies somewhat from 2 feet 6 inches in thickness and stands to a height of 7 feet 8 inches."

Reference to the accompanying cut shows striking points of resemblance to the Chettro Ketl structure. It is considerably smaller in size but has the feature not yet found in the Chaco Canyon ruins of small peripheral chambers encircling the central room. The Aztec structure therefore seems to

be nearer related to what Mr. William H. Holmes described in 1876¹ as double-walled and triple-walled towers. Note the similarity in these ground plans. One of those described by Mr. Holmes seems to have been of enormous size, 136 ft. in diameter, almost triple the diameter of the one at Aztec, and double the one at Chettro Ketl; but little seems to have remained, even at that early date, of the building described. I quote from his report: "The small tower *b* is situated on the brink of the cliff, directly above one of the principal groups of cave-houses. It is neatly built of stone, which, although not hewn, is so carefully chosen and adjusted to the curve that the wall is quite regular. The wall is 18 inches thick and from 2 to 6 feet in height.

"Long lines of debris, radiating from all sides, indicate that it has been much higher, and has but recently fallen. This tower is enclosed by a wall, also circular in form, but open toward the cliff, as seen in the drawing; the ends projecting forward and irregular and broken as if portions had fallen. Its construction is like that of the inner wall, but the height is not more than 3 feet at any point. The diameter of the inner circle is 12 feet, that of the outer 22 feet; the distance, therefore, between the walls is a little less than 4 feet. In this space there are indications of partition walls that have originally divided it into a number of apartments.

"About one hundred and fifty yards to the southwest of this ruin are the remains of another similar structure. It has been, however, on a much grander scale. The walls are 26 inches thick, and indicate a diameter in the outer wall of about 140 feet. They are not above 4 feet high at any point, and

¹Report on the Ancient Ruins of Southwestern Colorado (1875-1876), U. S. Geological Survey.

ART AND ARCHAEOLOGY



Stairway to the Antechamber.

in the parts toward the cliff can only be traced by a low ridge of earth. The remaining fragments of wall are at the remoter parts of the circles, and are in every respect like the walls already described. The inner wall, which can be traced but a short distance, is $8\frac{1}{2}$ feet from the outer, and has been connected by partition walls, as in the other case.

"The first impression given by this curious enclosure is that it was designed for a 'corral,' and used for the protection of herds of domestic animals; but since these people are not known to have possessed domestic animals, and when we further consider that enclosures of pickets would have served this purpose as well as such a massive and extraordinary structure, we can hardly avoid assigning it to some other

use, which use, doubtless similar to that of the smaller tower, is very naturally suggested by its location and construction. That they both belonged to the community of cave-dwellers, and served as their fortresses, council chambers, and places of worship, would seem to be natural and reasonable inferences."

Further on, describing a triple-walled tower, he says:

"The group partially illustrated in this plate is situated on a low bench within a mile of the main McElmo, and near a dry wash that enters that stream from the south. It seems to have been a compact village or community-dwelling, consisting of two circular buildings and a great number of rectangular apartments. The circular structures or towers have been built, in the usual manner, of roughly hewn stone, and rank among the very best specimens of this ancient architecture. The great tower is especially noticeable on account of the occurrence of a third wall, as seen in the drawing and in the plan at *a*. In dimensions it is almost identical with the great tower of the Rio Mancos. The walls are traceable nearly all the way round, and the space between the two outer ones, which is about 5 feet in width, contains fourteen apartments or cells. The walls about one of these cells are still standing to the height of 12 feet; but the interior cannot be examined on account of the rubbish which fills it to the top. No openings are noticeable in the circular walls, but door-ways seem to have been made to communicate between the apartments; one is preserved at *d*. The inner wall has not been as high or strong as the others, and has served simply to enclose the estufa."

A fruitful field still remains in the study of these circular structures of the Southwest. The lesser form still re-

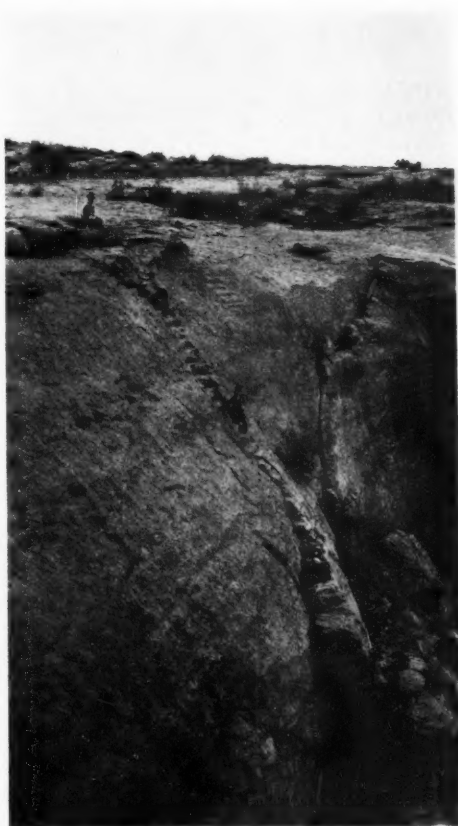
ART AND ARCHAEOLOGY

mains in use among the Pueblos, in some cases almost wholly subterranean but usually partly above ground. Almost every Indian town has these sanctuaries still in use and so well understood are they that little is left to conjecture. But the "greater sanctuaries," if we may so call them, have no place among the Pueblos of the present day.

THE MENACE OF THE CLIFFS

Aside from the excavations of 1921 observations were extended to the general archaeological conditions of the Canyon. The remains of the fine stairway shown in the illustration are to be seen just back of Chettro Ketl. This appears to have been the main trail to the mesa top and probably toward the mountains to the northeast. Several photographs are shown for the purpose of further illustrating the conjecture published last year that one cause of the abandonment of the Chaco Canyon towns was the menace of the falling masses of rock from the adjacent cliffs. Referring to the illustrations of the cliff just back of Pueblo Bonito it will be seen that this enormous mass of rock actually tilts forward at the present time. It is detached from the ledge back of it by a crevice through which one can easily pass. One picture shows the horizontal crack formed by the tilting forward of the enormous balanced rock, another shows that the comparatively soft stratum at the base is being crushed by the vast weight above. It is safe to predict that at some time in the future these thousands of tons of sandstone will topple forward. When that occurs there will probably be little left of Pueblo Bonito. Let us hope that some thousands of years will elapse before this catastrophe will occur. A typical illustration is

[129]



Grand Stairway from Chettro Ketl to the Mesa.

inserted showing the progress that has been made in the study of ceiling construction in Chettro Ketl and Pueblo Bonito.

ANCIENT IRRIGATION

A word should be said here with reference to the irrigating enterprises of the Chacones. The best preserved works in the canyon are at Una Vida, three miles above Pueblo Bonito, and those belonging to the pueblo of Pecosco Blanco, three miles below Bonito. Near Una Vida, which is situated against the north wall of the canyon, a



A typical Chaco Canyon Ceiling.

reservoir and system of ditches is discernible. Peñasco Blanco is situated on top of the mesa south of the canyon. Its fields lay in the bottom north of the Pueblo. No great area was cultivated and it is difficult to understand how such a sea of sand could ever have produced sustenance for such a large community. The reservoir was built in a bed of sand where seepage would have been so great as to render it nearly useless. This was overcome, at least partially, by lining the bottom with clay and slabs of stone. This clay when indurated formed a moderately good cement and rendered the reservoir fairly effective. The waters from the main channel of the Chaco were diverted by means of a weir and conducted to the reservoir. Seepage in the

weir was overcome by the same method as in the reservoir.

Kin Klizhin is a small ruin on the mesa between seven and eight miles southwest of Pueblo Bonito. Here are fairly well preserved irrigation works. The pueblo stands on a sandy hill. About an eighth of a mile away is a broad wash and in this are remains of a stone dam. On the east side is a wasteway cut through the solid rock. The reservoir was large enough to impound a meager supply of water for the irrigation of the fields cultivated by the pueblo. These consisted of possibly two hundred acres. The ditch which conducted the water from the reservoir to the fields is filled with sand but plainly discernible.

ART AND ARCHAEOLOGY

The best example of irrigation works in the entire Chaco system is that at Kin Biniola. This ruin is about fifteen miles southwest of Pueblo Bonito. The ruin is in the basin of a wash of the same name which is tributary to Chaco Canyon. The valley is here quite broad and on the eastern side is limited by a low mesa, at the base of which stand the ruins of the pueblo. The wash is about a third of a mile to the west. South of the ruins is a large natural depression, which was made to serve as a reservoir for the flood waters diverted from the wash. A ditch fully two miles long conducted the water from this lake to the fields, which were quite extensive. The ditch is carried around the mesa and along a series of sand hills on a fairly uniform grade. It was mainly earthwork, but whenever necessary the lower border was reinforced with retaining walls of stone, portions of which still remain in place.

At Kin Yaah, a small ruin thirty miles south of Chaco Canyon, there are vestiges of an irrigation system. This ruin is situated on an open plain, surrounded by a large area of irrigable land. The works consist of two reservoirs and a canal 25 ft. to 30 ft. wide and in places 3 ft. or 4 ft. deep.

Representations made to the Department of the Interior that errors in the early surveys of that region made it impossible to accurately locate any of the ruined towns of the Chaco, all of which were included in the proclamation of President Roosevelt in 1907, creating the Chaco Canyon National Monument, led the Department to order a re-survey of the entire district. This was done by the General Land Office during the summer of 1921. The result was rather disturbing. Only the following towns are found to be on Government land and therefore under the protection of the "Preservation of Antiquities Act": Pueblo Pintado, Wijiji, Chettro Ketl, Pueblo Bonito, Pueblo del Arroyo, Tsin Kletsin, Pueblo Alto, part of Peñasco Blanco and Kin Biniola. Towns that fall outside the public domain and are therefore unprotected, except as private owners may be interested, are: Una Vida, Hungo Pavi, Casa Rinconada, Casa Chiquita, Kin Kletso, part of Peñasco Blanco and Kin Klizhin. The School is making an effort to secure relinquishments from private owners so that the entire group may be preserved.

*School of American Research,
Santa Fe, New Mexico.*

AN INDIAN BURIAL MOUND

By E. B. COOK

The sculptured buttes cut cameo-wise
Against the bold blue of the skies,
Above his grave.

No catafalque, no lordly marble tomb;
But,—in his native hill side carved,—a room
His bones to save.

The tomb profaned, simple would show his needs;
A shard or two, a strand of turquoise beads
The spirits crave.

Here ruled his tribe before we bade them go.
Here buffalo and deer paid tribute to his bow;
Here lies a brave!

A NAVAHO FOLK TALE OF PUEBLO BONITO

By LULU WADE WETHERILL and BYRON CUMMINGS

FOR many years the great community house in Chaco Canyon known as Pueblo Bonito has attracted the attention of the traveler who strayed that way and has been of great interest to students who are trying to trace the development of the early American tribes. With the undertaking of more definite investigation of the ruins of the region and the further excavation and study of this great pueblo, interest is widened and quickened.

For many, many generations the Ushinnie clan of the Navaho has handed down its legendary history. A part of the story as told by several of their oldest and most influential medicine men is a tale of primitive romance and social custom that throws some light upon the character of the ancient people of the Navaho Desert.

The abandonment of the village, which now lies in ruins near Aztec, New Mexico, was in Navaho legendry caused by a drouth of twelve years' duration, which compelled the people to move in search of new fields. They went in small bands to every place in the country where there might be sufficient moisture to raise enough food to maintain life until such a time as the gods might see fit to give them rain again.

After a number of years of suffering—twelve the legend goes—they were settled in different places throughout the country, and the rains came and they began to prosper and increase. A few of the clans had moved to Chaco Canyon where they built Pueblo Bonito and many other villages that now lie in ruins. Most of these were the dif-

ferent branches of the Ushinnies, or Salt clan, called collectively Nastashie. This name was given them from the style of their shirts. These were made with a band of a different weave around the waist and chest and across the shoulders. These shirts were of black, but after the coming of the Spaniards, the bands at the waist, chest and across the shoulders were made of bayetta, if it were possible to get it.

After the rains came, they grew very prosperous, having large crops and accumulating a great many jewels of turquoise, shell and jet. It was the custom to have in the principal village of a group, which in this case was Pueblo Bonito, a girl who was kept as the wife of the Sun and was called Do-be-det-clod. From birth until death she never saw the light of day nor was she ever seen by the men of the villages except by her father or the medicine man who was present at her birth. This girl was always the daughter of a woman of the Beaver clan who was married to a man of the Alligator clan. These two clans were aristocrats and of much higher intelligence than the others. They were much lighter in complexion and their hair brown instead of black like the other people. For this reason, the wife of the Sun was chosen from these clans.

When the wife of the Sun was within fifteen to eighteen years of the time when she would be expected to die and in time that another girl might grow to womanhood before this event, a child was chosen to take her place. The births were carefully watched. If a birth occurred at sunset or sunrise, and a sunbeam fell across the face of

ART AND ARCHAEOLOGY

the babe the child, if a girl, was chosen for the wife of the Sun; if a boy, he was raised to a high position in the village. If the child was a girl, she was at once painted black, as a symbol of the dark, and yellow streaks were painted down her face and breast. Prayers were said over her, chants sung and ceremonies held four days in the room where the wife of the Sun lived. The ceremonies were performed by the medicine women of the village. The people of the villages held a great feast of thanksgiving, that one wife of the sun was still living when another was born, for should the wife of the sun die before another was ready to take her place, some terrible calamity would happen to them. After the four days of ceremony, the child was left with two young women as attendants, who stayed with her all the time to care for her wants. When old enough, she was trained by the wife of the Sun to take her place when the time came for her to go home.

The village of Pueblo Bonito, or Ysa-be-ad-ne-i, had a very beautiful girl growing up to be the wife of the Sun. As she became older the gods seemed to smile on the villages more and more, until there came among them a man from the south, from somewhere near the present village of Acoma or Laguna. This man was a great gambler and he told the people that they could not win any kind of game from him for his great grandmother had taught him a ceremony which he had successfully performed. She had told him to take some of the pollen of the Nas-shoie-docleas-e-nutto, some corn pollen and pollen of other plants to the hole of the chameleon, lie down in front of the hole and draw a straight line with the pollen, place some of it in his hand, palm upward, at the end

of the line and chant four songs. As he sang the chameleon would come from his hole, and eat the pollen, following the line till he reached the man's hand. If he did not move while the chameleon was out and while he was singing, he would always win, but that if he should move or forget any of the songs, he would lose all he had. He told them that it was considered very risky, but that he had carried it to a successful completion.

The people found that this man's name was Utsos Docleas, or Blue Feather, from a long blue feather which he wore and which his family had brought from the far south. Because he had roamed about so much, and since the people did not know his family history, they classed him with the Butterfly clan, of which there were a great many at Pueblo Bonito. Blue Feather won steadily the games that he had taught the men of the village and then turned to learning their games.

The people had a task which they used several times a year to test the strength of the men. A post was set deep into the ground, and the young man who could push it over with the least effort was the leader of the dances until someone appeared who could push over the post with less effort or without as many trials. Blue Feather played and won the games, but would not take the test of strength, although they asked him to do so every time they held the test. He continued to win at all the other games until the people commenced to call him No-el-pee-ie, or the winner.

The old men tried to stop the gambling, as this stranger was winning everything the boys and young men had, even to their robes; but could do nothing with them. The old men then

ART AND ARCHAEOLOGY

noticed that the younger men were beginning to act very strangely at times, but thought it was due to lack of sleep. Soon they gambled all the time and would not do the work that was necessary. The old men began to investigate and found that this stranger had taught them to chew a gum, obtained from a plant which grew about the country and had something of the effect of opium or alcohol. The old men thought they would try some of this weed and they too soon became addicted to it and began to gamble with the rest of the men. This was what the stranger wanted. He now won one village after another, then he won the wives, sisters and daughters of them all; and as he had won all the people, he was ruler. But still he could not be leader in the dances as he would not take the test of strength.

One fête day he said he would set the posts for the test, which they allowed him to do. He set one very strong cedar post and one very large but worm-eaten pinon. He then said he would take the first test as he was the ruler and had never taken it. When the hour came for the test he was the first one ready and walked to the largest post and putting his shoulder against it with very little effort pushed it over. The people were greatly surprised at his great strength and some of them said there must be something wrong and went and examined it; but they could find nothing wrong with it as he had been clever enough to put pitch in the worm holes, which made it look stronger than ever.

Now he was ruler indeed. He sent a runner to his home in the south to bring his family to live with him in one of the villages. His father and his sister and her family came. A year later his brother and his twin sisters

came. One of these sisters was a great weaver. There was no one who could weave or embroider as she could. She wove cloth, which the Navaho say looked like frost on the trees in winter, with deer and other animals worked in it. She had learned this art from her mother and grandmother. This skill and her great beauty made her much sought after among the women and young men of the village, so she and her brother were indeed rulers.

Noelpieie would not allow the villagers to have much of the blue gum, just enough to keep them under control, and the village began to prosper again. Things went well for a few years and then the people began to grow dissatisfied with Noelpieie's rule and to enquire who this stranger was that had come among them and won them by no fair means. They finally decided on sending out runners to the neighboring villages. These runners started south, traveling for several days until they reached the village of Tsa-nal-swean near the present villages of Acoma or Laguna, and here they learned the story of Blue Feather.

THE STORY OF BLUE FEATHER

Many years ago Shawn-be-clo-euskee (Sunbeam boy) with several other men left the village of Toh Dissos (Glistening Water) on a trading expedition. This village was situated by a lake of rainbow colors some thirty-eight days' journey to the south. He left his family, which consisted of his mother, Lut-tah-hot-te, who lived at the point of the lake; his father, his sister, Utsos-ba-bagon (girl with a house made of feather blankets); and his brother, Encleas-yoe-el-issie (boy with the shoes beaded with jewels). When he had been gone for several months, his father became ill and was

ART AND ARCHAEOLOGY

not expected to live. The mother sent his younger brother and sister out to bear him the news of his father's illness.

Some of the trading party had turned back from the village of Blackwater. This lay twenty-five days' journey to the north. Knowing this much of their brother's route, the two young people started on their twenty-five days' journey. Reaching Toh-Klizhin (Black Water) they found that their brother had gone to the village of Toh Klitso (Yellow Water), which lay nearly as far south as Toh Dissos and far to the west. While resting here, some traders came from Toh Klitso and they learned from them that their brother was at Toh Klitso and was married. The brother and sister had planned to go to Toh Klitso, but they were very tired, and having learned that their brother was married, they tarried for some time, seeing a great deal of the people of Toh Klizhin and the traders from Toh Klitso.

Utsoas-ba-bagon fell in love with one of the men of this trading group from Toh Klitso, a member of the Spider Clan, who returned her love and asked her to marry him. This she could not do without the consent of her mother. The brother and sister still tarried at Toh Klizhin until one day, to their surprise, their mother came, bearing the news of their father's death, which happened the day after they had left their village. After waiting many months for their return, she had joined a party of traders and followed them. The mother saw the attachment which had grown between Utsoas-ba-bagon and the man from Toh Klitso and gave her consent to the marriage. She and her son started on in their search for the older brother. Arriving at Toh Klitso, they found that their son had lost his wife and had gone on to another

village, Toh Denec (Gurgling Springs), which lay to the south and west of Toh Klitso. They went to Toh Denec and arriving there found that he had gone on to the village of Toh Hie Kan (Springs under the Rocks), a short distance from the ocean. They also learned from some travelers that the son and brother had again married and taken up his abode with the villagers. Learning this, the mother became discouraged and started back to Toh Dissos, intending to take her children with her. When she arrived at Toh Klizhin, after an absence of nearly nine years, she found that her daughter had two children, one Nut-Claie, a hermaphrodite, about eight years of age, and the other a girl of about seven, called How-how-tillie, because her hair grew very fast and was like the silk of the corn. The mother tried to get her daughter to go back with her to their home at Toh Dissos, but her husband and his people wanted her to return with them to their home at Toh Klitso. Not being able to agree, they all finally decided to go on to a place further north, called Tsa-nil-tsin. Here they built their home. But the mother was not satisfied. She went back to her home at Toh Dissos, but could not stand it away from her children. So she returned to Toh Klizhin, but was not satisfied there, as she still longed for her daughter. She finally went to her daughter at Tsa-nil-tsin, where she saw her grandchildren grow up. She taught them the arts of weaving and embroidery, in which she was very skilled and saw her grand-daughter grow up and marry a man of the Butterfly clan. This girl gave birth to four children, the first a girl, the second a boy and the third and fourth a pair of twins. The son grew to be a man of strong personality and a lucky gambler. He decided

ART AND ARCHAEOLOGY

to go out and win the world and it was he that came to Pueblo Bonito as a stranger.

After the runners had learned all that the people of Tsa-nil-tsin could tell them, they returned to their own people and told them what they had learned.

During the few years of prosperity following Noelpsee's winning of the villages, he tried to curb the use of the blue gum which he had introduced, but did not make much headway and became addicted to the habit himself. He soon came to the point where he did not care what became of himself or the people whose ruler he was. Relieved of the restraint that he had exerted over them, the people went from bad to worse. The men gambled all the time. They did not take care of their corn fields nor did they perform any of their religious ceremonies. Then what they considered the worst of all befell them.

Do-bedet-clod was accustomed to go out after night-fall for exercise. One night while out for a walk with her attendants Noelpsee saw her and determined to take her for his wife. The people tried to talk him out of it, but did not succeed. He said that she already belonged to him as he had won her with all the village.

From now on they began to suffer. An early frost came and their corn did not mature. As they did not have the usual amount stored away they were exceedingly hungry before spring came, and the dissatisfaction grew. Spring came; there was no rain and again they had no crops. Things came to such a state that the people arose and decided to banish Noelpsee and return

Do-bedet-clod, the wife of the Sun, to the room from which she had been taken. He was banished and held prisoner at a place called Talth-nah-zin, about eighteen miles from Pueblo Bonito. The people now tried to resume their religious ceremonies, but a great deal had been forgotten. Most of the old men had died from starvation and the effects of the terrible habit they had formed, and many of the old ceremonies, medicines and chants were lost forever. Things finally grew so bad that they decided to remove what they considered the cause of their downfall. They killed Noelpsee and buried him at the base of a large rock. After the burial they swore never to imitate him in any manner and from that day on never wore feathers in their hair. Conditions now had become such that they were compelled to move from Chaco Canyon. They sent runners out to find new fields and settled at or near Zuni.

Thus there lingers in the memory of the old men of the Ushinnie Clan this story of their ancestors and the sad misfortunes that befell them in the period of their history made in Chaco Canyon. Tradition further relates that this bridal chamber, the home of the Bride of the Sun, was highly decorated with the symbols of their religion. It is said that a room of such description containing many pieces of beautiful pottery was found in Pueblo Bonito some years ago. Recently there was reported the finding of a similar room in the ruin at Aztec from whence, this story declares, the people of Chaco Canyon came.

University of Arizona.

THE SCIENTIFIC ESTHETIC OF THE REDMAN¹

By MARSDEN HARTLEY

II.

The Fiesta of San Geronimo at Taos

WHAT San Geronimo has to do with our American Indian will never be quite clear, and we shall never be able to reconcile the dance with the confessional. It is, however, San Geronimo day among the Pueblo Indians of Taos. In this pueblo they are said to elect their new governor each year by means of the foot-race, an ancient institution prevailing at least in this tribe. There is as I have said a something irrelevant and incongruous in the catholic adherence among these original people. We can not imagine them on their knees asking for absolution. It is not thinkable. It is then a far cry from the celebration of high mass in the little mission church, quaint enough in appearance both as to exterior and interior. We can associate it naturally with the Mexicans, for that is their racial survival, and with the Penitentes also can we find flagellation and earlier human crucifixion somehow attachable. But it is a sophistication that has nothing whatever to do with the redman, or with the inner response of these once so free people. They had larger views to impose upon themselves, they had the sun to sign themselves to, and their ethics and morality as well as their spiritual conceptions have been too highly evolved to make such compromises. It is a something super-imposed, certainly. You are conscious of that when you enter the little homes of the Indians in the pueblo, and only if you are somehow friendly with them,

and you observe on their clean white walls the chromos of Christ and Mary bought at the general store, hanging askew on the walls, along with the photos of their families, and proud pictures of their sons in football clothes, indications of school life away from home. If you see them daily and note a certain calm, a mystical communion with the elements as deified by them in various handsome forms, you find the almost humorous discrepancy between the natural religion which is their own invention, and that of the penitente for example. But the picture of the morning changed with the placing of the effigy of the Virgin on the high throne improvised for the occasion, to which she was brought in stately procession from the church after mass, painted with hues hardly discreet in a of lady her origin.

Immediately there was ushered in to the sunlight the more insistent and decorative aspect of the day. There came the parade of the racers of the pueblo this side of the little river, twenty or more of them, strong muscular bodies, fine specimens of manly vigor, superbly painted in earth hues of deep Indian red, pale ochrous yellow, light brown and soft tawny pink, some of them from the knees down tinted with stone grey, and touched now and then with tints of sinister blue. About their loins were draped cloths of various tones, and upon their feet the usual beaded moccasins, the which they shed and piled in a heap when the starter appeared, while along their thighs and arms and breasts were placed at intervals in design, small feathers from the eagle's breast, and their shiny blueblack

¹For Part I see ART AND ARCHAEOLOGY, XIII, No. 3, p. 103. (March, 1922).

ART AND ARCHAEOLOGY

heads were sprinkled with eagle's down and the coils of their hair wound with coloured bands, or now and then with strips of mink fur. It was a handsome scene for remembrance, this splendid array of bodies and intelligent decoration, so in keeping with their own idea of life, their own fascinating notion of rhythm and of form.

You were impressed at once with their fine estheticism, and the notable athleticism of the men and boys, so strong of muscle and of sinew, and the running proved still further the exceptional skill of them. They ran with the agility and the rapidity of panthers and all of the grace of the shapely animal in the race. They are tense men of brawn and terrific energy. Beside the visiting Apaches, who are mostly tall men of a much more nomadic appearance, these Pueblo Indians seem soft and round and are by nature more the domestic, agricultural type. They train themselves from year to year, and are kept meanwhile in trim by their agricultural pursuits. The religion of confession and absolution is replaced with a more convincing religion of the body. They keep their bodies in the key of life around them, these high mountains and high plains, clear sunlight and wide skies. They are among the most normal in health, and show signs of the strict morality and ethics which they impose upon themselves, evolved out of their own history. They did not have perhaps the appearance of monoliths against the morning sky with delicately chiseled profiles as has the Apache, with his sombrero towering above him like an eastern minaret, and you get the oriental touch in the Taos Indians through the white blanket which they affect in all weather, covering themselves to the eyes in the manner of orientals. You can find remarkable

correspondence among the Indians to almost exact copying of carved Chinese idols for instance, the little wise men who sit pondering on the immensities appearing in the very old men of the tribe who sit in the sun and expose their worn ribs to the warmth, to the young Egyptian god, or the Assyrian warrior with his so virile physique so equal to the stress of battle and the rigours of the hunt.

It was a day among the splendors of an old time, the perpetuation of customs of two thousand years, and even more probably. Then it was probably more the living custom, and now in spite of its reality, you feel the quality of tradition paramount. It is the Indian's only means of holding to his so vanishing racial outline. There is no other hope for him. He is now one of the spectacles of the earth, and though I know the older dignitaries of the tribe resent the alien intrusion of the white with the same persistence, and teach with all the force of their being the importance of remaining true to the tenets and customs of their so dignified and haughty race, there is, as there is sure to be, a lessening of interest in the younger men who through influences around them are finding it easier to succumb to the systems and modes of white men, some of them alas, not so "white" as they might be; but all these various influences are forgotten in the spectacle of the race. There was the splendid tensivity of life in the scene of the long row of strong nude bodies painted with animal and bird-like tones, and as you stood watching the starter brushing the thighs of each runner with a long feather from an eagle's wing to give him speed, you had another kind of physical and mystical splendour for your eye that you would find nowhere else in the world, or cer-

ART AND ARCHAEOLOGY

tainly nowhere outside the life of primitive peoples. There is a something more inspiring in this elemental symbology. You, if you are impressed, expect the corn to grow after the invocations of the corn dance, and you expect speed from the runner whose head is crowned with eagle down, and whose thighs are brushed with eagle's wings. It is a language that is near to nature.

The Indian race in the morning, then, and the foolery of the *chifonetes* in the afternoon, with a single demonstration of pole climbing, formed the ceremonies of the Fiesta of San Geronimo among the Indians. In the *chifonetes*, you have the example of tribal gift for and appreciation of humour. It is said to be and singularly, the most sacred among the various expressions of these people, and is the one they do not allow photographed. It is likewise said to be a method invented by the tribe to console its members with jollity in case of calamity, such as drought for example. These several, or actually, five men heavily painted in black and white, nude but for the loin cloth to represent the comic spirit, proceed to perform antics of such a nature as to inspire laughter and merriment among their people, and they are certainly grotesquely humorous enough to amuse anyone with a sense of humour. They were certainly both from the comic and the esthetic point of view successful, for it was mastery in expression on both ways, and a fine knowledge of elemental painting was shown, as well as an excellent sense of gesture and interpretation. They have cultivated to a very high degree their own conception of rhythm and of pantomimic gesture, and of bodily grace as well. It is of the latter one may really call them masters.

You will go far to find a better sense

of original rhythms than is displayed by the redman. He is unquestionably one of the finest dancers of history, and this can be confirmed at once by the eye. They are all rhythmists of the first order, and it is doubtless this that gives them their own specific poise, their own peculiar calm and gentleness. They are physically co-ordinated and countenance no other energies than their own. They are a pronounced contrast to their Mexican neighbors who, with their cross-ridden religious fanaticism, have tortured themselves out of countenance. You find the Indian face together, you find the Mexican face awry. Something vastly different is happening to these two types of men in the same land under the same sky. It is not easy to get hold of tribal significances for they teach nothing to the stranger, and their language is, for all I can gather, entirely spoken, and the history of the tribe is likewise never written.

It is considered so "white" to admire the redman in some parts of this section of the country, and yet something is surely to be said for his mystical esthetics, if not always for his ethics. He may be said to hold too fiercely to the barbaric notion of these, and his propensity for appropriation without regard to ownership are at least egotistically expressive if not morally inspiring. It is as artist I want to admire the redman for he is a genuine expressor and inventor. He speaks no other tongue than his own among his own people, and keeps his consciousness clear of outer influence mostly. I think of him as the first among the dancers of the world. He knows the beauty of bodily gesture. He takes his place with the acrobats for his conception of muscular melody.

Santa Fe, New Mexico.

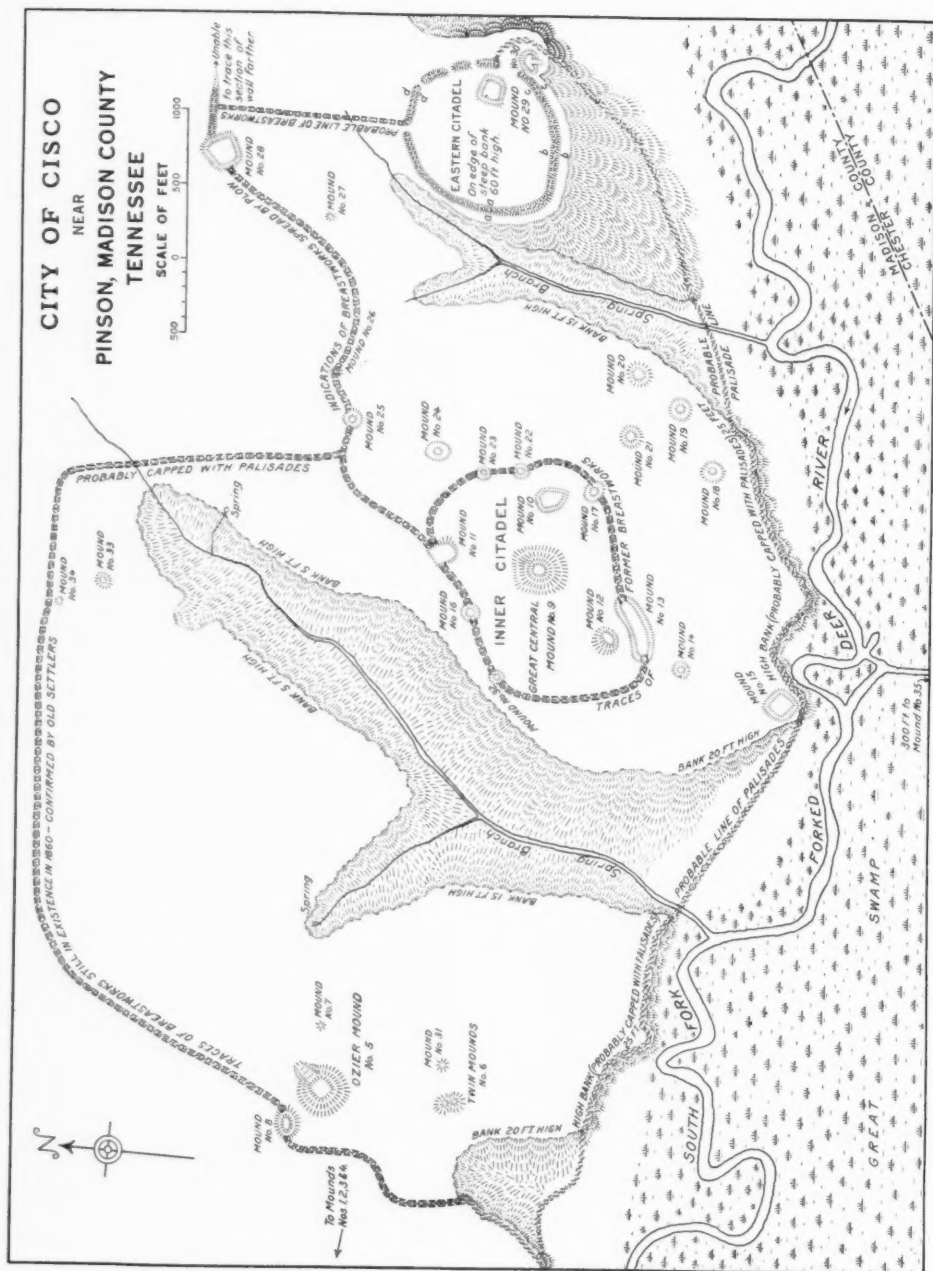


Fig. 1. Map of the City of Cisco.

Drawn by Paul J. Leverone.

RECENT ARCHAEOLOGICAL DISCOVERIES IN TENNESSEE

By WILLIAM EDWARD MYER

Author of "Remains of Primitive Man in Cumberland Valley, Tenn."

RECENT archaeological discoveries made by the author in Tennessee show that state to have within its borders some of the most important and interesting remains left by stone age man in the United States. Very little has hitherto been known about some of these great ruins. Amongst these great and almost unknown remains may be cited the ruins of the city of Cisco, the Great Mound Group on Harpeth River, and the fortress at the junction of Harpeth and Cumberland Rivers.

City of Cisco

It is hard to realize that in the State of Tennessee ruins of a great ancient walled city with outer defenses measuring fully six miles in length, with elaborate outer and inner citadels, with 35 mounds of various sizes, should have remained almost unknown beyond the bare fact that near the little railroad station of Pinson, in Madison County, there were some mounds and inclosures.

The author visited this site in 1916. He found in the thickets and swamps and woodlands along the waters of the south fork of Forked Deer River, in Madison and Chester Counties, the remains of an ancient fortified city together with its outlying towns and settlements. This ancient city and its adjoining towns were so close together that doubtless their cultivated fields and small isolated truck patches formed a more or less continuous cultivated site for a distance of about 12 miles.

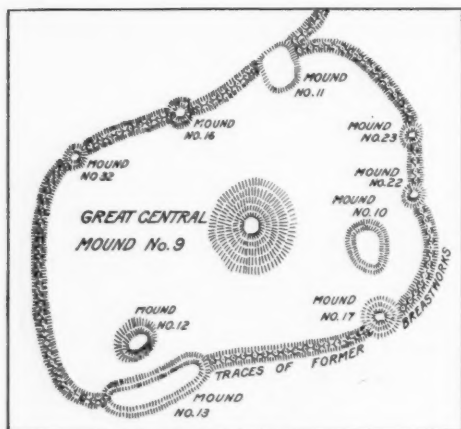
The remains of the city of Cisco, as

they appear today, are shown on the map (fig. No. 1).

This map is from a careful survey made by the author's expedition. This great city extends along the high banks (locally called bluffs) of the Forked Deer River for a distance of $2\frac{1}{2}$ miles. It was probably defended on the river side by a continuous line of wooden palisades along the edge of the high banks. Further protection on this side was given by the river itself, and also by the great swamp extending the full length of the town on the opposite shore of the river. On the land side there was a long line of earthen walls surmounted by wooden palisades. The total length of the outer defenses was a little over 6 miles. The walls of the inner citadel and the other inner defenses add five-sixths of a mile to this total. The dotted lines on the map show where some of the earthen embankments have been destroyed in recent years by cultivation; but we were fortunate in finding several old inhabitants who remembered their exact location and appearance. In the undisturbed woodlands and thickets the original earthen embankments still remain. Of course all traces of the wooden palisades have long since disappeared.

There are now 35 mounds in this city. These range from very low rises, not over 1 foot in height, to the great mound in the inner citadel. This great mound is 73 feet high; its base 300 feet x 370 feet; and its flat summit 38 feet x 60 feet. It contains 92,300 cubic

ART AND ARCHAEOLOGY



DETAIL OF INNER CITADEL

Fig. 2. City of Cisco, Citadel.

yards of earth. This mound is about sixth in size among the great mounds of the United States. It commands a view of the surrounding country for many miles in every direction. At one time it probably had the great house of the king upon its summit. Several of these mounds are very large, being from one-third to one-fourth the size of this great central mound. These large mounds were placed at strategic points in every quarter of the city.

Mound No. 30, just beyond the line of walls of the eastern citadel, stands on the summit of the high river bank. It was probably devoted to sacred ceremonial purposes and supported some sacred building. It appears to somewhat resemble a bird with outstretched wings. The thunder bird and other sacred birds played an important rôle in the religious rites of stone-age man in the Southern states.

There is abundant evidence showing this city was the central city and capital of a large region; that it had a population of several thousand, and was built by some conqueror-king. This great fortified city was occupied only for a

short time after it was completed. Then the conqueror-king was overthrown. His stronghold was taken and destroyed. It was left desolate and never afterward occupied.

Limited space prevents giving more details of these great ruins.

Ancient Trails Leading from City of Cisco

The author discovered an ancient trail which led from the city of Cisco in a southwestern direction to another old fortified town near Bolivar, Tenn. At the Bolivar town the old trail forked. One prong led westward to the old Indian crossing of the Mississippi River at the mouth of Wolf River, in what is now Memphis. From this Memphis crossing the trail led to the ancient Indian towns in Arkansas and the Southwest. The other prong led from Bolivar town to the southward, along Pontotoc Ridge, to the ancient Indian town of Pontotoc, near the present white town of Pontotoc, Miss. From Pontotoc it led via Columbus, Miss., down the higher lands west of the Tombigbee River, to the ancient towns around Mobile Bay. From the city of Cisco another trail led eastward, crossing the Tennessee River near the present Johnsonville, from thence on to the Great Mound Group on Harpeth River at mouth of Dog Creek, thence to the ancient towns around Nashville.

Fortress at Mouth of Harpeth River

In February, 1920, the author discovered a hitherto unknown Indian citadel on the summit of the tall, long, narrow, double-faced precipitous bluff on the point of land between the Harpeth and Cumberland Rivers at their junction in Cheatham County, Tenn. This natural fortress extended along the summit of this thin double-

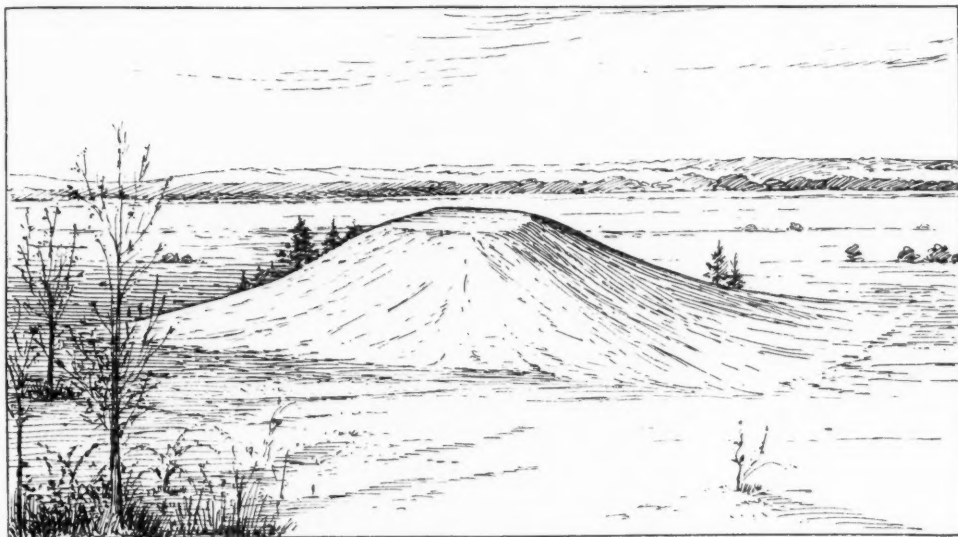


Fig. 3. Sketch of Great Central Mound. Height 72 feet. Base 370 ft. x 300 ft. Top 60 ft. x 50 ft.

faced bluff or promontory for a distance of 3,110 feet. The Harpeth River side of the fortress is shown in fig. 4. The Cumberland side is very similar. This fortress-bluff is from 150 to 200 feet in height. It can be scaled at very few places, and at these places only with great difficulty. These few places of possible ascent were protected by breastworks and palisades. The narrow ridge-like summit is only from 20 feet to 170 feet in width. It bears several mounds and embankments at strategic points along its summit. For man armed only with stone-age weapons, this fortress was nearly impregnable. It was the fortress and central place of refuge for a line of scattered settlements which extended some six miles up and five miles down the Cumberland River and four miles up the Harpeth. At the first sign of danger all the inhabitants of these unprotected settlements could be safe within the fortress in less than an hour.

The people who occupied this fortress and the nearby settlements are shrouded in mystery. Their pottery, pipes, and some of their other relics are somewhat different from any found in Tennessee or elsewhere in the United States. The working out of their lost story offers a most tempting field to archaeologists.

Great Mound Group at Mouth of Dog Creek

So far as the author has been able to learn, fig. 5 is the first photograph ever published of the Great Mound on Harpeth River at the mouth of Dog Creek, in Cheatham County, Tenn. This enormous earthwork belongs to the Great Mound Group which covers portions of two bends of the Harpeth River. These two bends are about two miles apart. The remains of an ancient roadway connecting them can still be plainly seen.

This Great Mound with its wide earthen platforms caps a tall hill in



Fig. 4. A photograph showing only one-sixth of the Harpeth River side of fortress at junction of Harpeth and Cumberland Rivers, Cheatham Co., Tennessee.



Fig. 5. Great Mound on Harpeth River at mouth of Dog Creek, Cheatham Co., Tennessee.

the upstream end of this widely extended town. A portion of the hill has been artificially shaped in order to bring out in greater prominence the earthworks and former buildings on its summit. This artificially shaped portion of the hill does not appear in the photograph. Surrounding these earthworks on the summit are the ruins of a large edifice and a reservoir and a number of other important remains.

The downstream portion of this important town lies in the river bend known locally as Mound Bottom, because the entire 50 acres of this bend of the river is taken up with large mounds. Some of these are shown in fig. 6.

These photographs can not bring out the real magnitude of these mounds. Recalling that this small photograph

shows a considerable portion of the 50-acre bend will aid the reader in grasping the true size of these mounds. It is well known to photographers that no photograph will bring out the true appearance of great earthworks. This is due largely to "the undue exaggeration of the foreground."

Nos. 2, 4, 5 and 6 are large mounds. No. 1 is a wide artificial earthen platform adjoining Mound No. 2. No. 7 is a stone-slab-coffin cemetery. This Mound Bottom portion of the old town was formerly surrounded by an ancient palisaded wall with towers every 40 paces. These palisaded walls probably closely resembled those of old Chaskepi. There is strong evidence of long-continued occupation by a large population.



Fig. 6. Mound Bottom, Harpeth River, two miles below mouth of Dog Creek, Cheatham Co., Tennessee.

Gordon Site

In 1920 the author explored, under the auspices of the Bureau of American Ethnology, the ruins of the ancient buried towns on the Gordontown Site and at the Fewkes Group, near Nashville. The result of this exploration is given here by their permission.

The Gordon Site is one mile north-east of Brentwood, in Davidson County, in a woodland which has never been disturbed by the plow. Its partial excavation brought to light some new and interesting details of the every day life of ancient stone-age man. Traces of 87 house circles and faint indications of several more could be made out. This was a fortified town. It covered 11 acres and was surrounded by an earthen embankment which at one time supported a wall of wooden palisades, equipped with towers every 55 feet. A map of this site is reproduced in fig. 7.

The ancient Gordon inhabitants for some unknown reason had deserted the village and the site had never afterward been occupied or disturbed. The deserted structures had gradually fallen down and, during the long centuries, the remains had been slowly covered with a layer of from 14 to 18 inches of black loam.

In some of these circles portions of beautiful, smooth, hard-packed, glossy black floors were found. In the centers were the ancient fire-bowls, yet filled with the ashes of the last fires kindled in these homes before their owners left them forever. Near these fire-bowls often could be seen the metates, mullers, and other household utensils, just as left the last time used. Underneath the floors were the stone-slab graves of their little children.

A level open space was found near the center of the town, and on the eastern side of this plaza was a low flat-topped mound which had originally supported some important building. Adjoining this mound on the west is an earth circle which probably outlines the walls of the town house or sacred ceremonial house. At the center of this sacred structure, on the unique black, glossy floor, an ancient altar was found. It was still filled with the pure white ashes of what had once been the sacred fire. These pure ashes contained no bones or other signs of domestic cooking. This altar was carefully preserved and is now in the Bureau of American Ethnology. The Gordon site is of much interest, because here we have the ancient Indian village floors just as the original inhabitants left them.

ART AND ARCHAEOLOGY

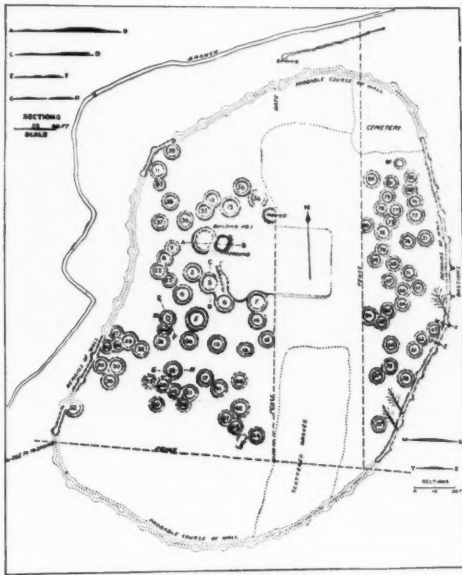


Fig. 7. Map of Gordontown.

A fine example of the potter's art of prehistoric man in Tennessee is shown in fig. 8. This was found in the stone-slab grave of a little child buried just beneath the floor of House Circle No. 23. The little body had been wrapped in cane matting. To the right of the head this fine burial vase had been placed. This vase was made of clay mingled with finely powdered mussel shell. It had been polished with great care and then well burned. The vase is 7 inches in height. The bottom of the little coffin had been covered with a mosaic of pottery fragments neatly fitted together. Many graves of this character were found just beneath the floors of the dwellings on the Gordon site.

Fewkes Group

The Fewkes Group is at Boiling Spring Academy, in Williamson County, Tenn. It consists of five mounds, four of which surround a level plaza or town

square. There are traces of about a dozen house circles, and a small remnant of what was at one time a considerable stone-slab cemetery. At least two different peoples have lived on this site. The earlier people built the mounds and most of the other remains. At a later date a small band of some other tribe located here. The earlier people buried their dead either in hexagonal or almost circular stone-slab graves, the bodies closely flexed. The later band used rectangular stone graves, with the body extended full length, on its back.

A town house or sacred ceremonial house had been built on the mound on the west side of the town square. This sacred building had one of those rare, beautiful floors, made of clay, smoothed, then hardened by fire, and finally covered with a coating which is yet black and glossy. In the center of the building, on this beautiful floor, an altar was found. It somewhat resembles that shown in fig. 10.

House Circle No. 6 was one of a group of buildings whose functions were doubtless closely interwoven and of a sacred character. No. 6 contained in its center the altar or fire-bowl shown in fig. 10.

House Circle No. 17 (shown in fig. 11) was a typical dwelling. It was evidently the home of a neat housekeeper; for when she left it, never to return, she swept the floor and left it clean. When, after untold centuries, the author uncovered her floor, it was not littered with broken animal bones, pottery fragments or other evidences of untidiness. This floor was of hard-packed clay, and a fire-bowl ("A") for domestic cooking was dug in the center. At this fire-bowl a puzzling burial was unearthed. A child, about 8 years of age, was buried by the side of the upright



Fig. 8. Mortuary vessel from child's grave in Gordon own.



Fig. 9. Fine ceremonial flint dagger from Circle No. 3, Gordontown.

stone slab ("B"), with its head resting just within the extreme edge of the fire-bowl, whose rim had been cut away at this point to admit the top of the child's head. The fire-bowl was found still filled with ashes; but although the ashes covered the top of the child's head, the head showed not the faintest trace of the action of fire. It appears probable that at the death of this child its little body was buried with the head resting just within the edge of the fire-bowl used by the mother for domestic purposes. The home was then abandoned. No

signs of any later domestic fires were found. Two graves of infants were also found in the floor of this house. One is shown at "C."

The exploration of Gordon and Fewkes sites revealed the interesting fact that they were probably deserted before the arrival of the buffalo in Middle Tennessee.

Old Stone Fort near Manchester, Tenn.

It has long been well known that there were the remains of a fortified town, covering 40 acres, between the

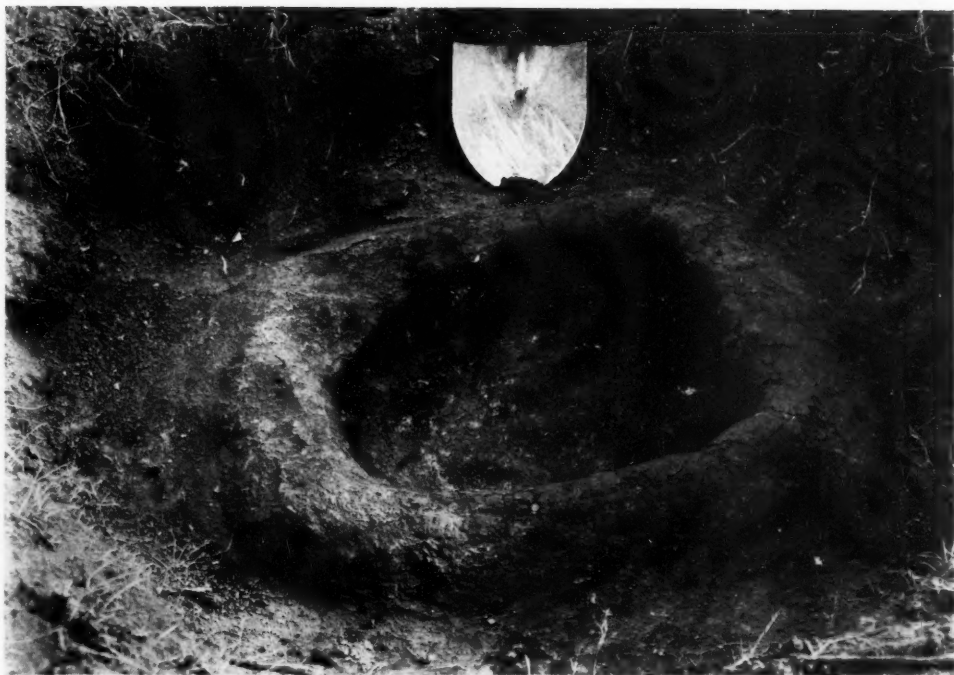


Fig. 10. Altar or Fire-bowl from House Circle No. 6.

two prongs of Duck River at its falls near Manchester. The construction of this fort was somewhat different from the others in the South. Its walls of mingled stone and earth, its elaborate and intricate inner defenses surrounding its only gateway, all took hold on the imagination of the student of the past. No one knew its history. No known tribe appeared to have any tradition concerning it.

In 1919 the author found a copy of the old "Franquelin's 1684 Map of La Salle's Discoveries, Paris, 1684," in the Library of Congress. This map furnished the first faint clue as to who built this ancient fort. With this faint clue, long, patient research finally established that the Old Stone Fort was at one time inhabited by the ancient Yuchis. The Yuchis later lived on the

Savannah River and elsewhere in South Carolina and Georgia. They afterward took active part in many of the stirring events of early historic Indian warfare in the South. A small remnant of these brave people now live in the northwest portion of the Creek Nation, in Oklahoma.

The author's further researches showed the Old Stone Fort to be the famous Cisca which De Soto tried in vain to reach in 1540. He also worked out many other interesting details of the history of this famous ruin.

The Life of Prehistoric Man in Tennessee

During the untold centuries since man first came into what is now Tennessee many quite different savage peoples have lived at various times in this region. They toiled and worshiped,



Figure No. 11—Floor of House Circle No. 17.
 "A" is a fire-bowl. Body of child was found by side of upright stone "B." Top edges of upright stone slab sides of another child's coffin in corner at "C."

loved and fought, even as do we, the latest comers. Then in the course of long years came fate in shape of enemy or pestilence or omens, and they were driven out. Their wigwams decayed and great forests slowly grew on the sites of their villages, which became buried beneath the black loam where-with nature so kindly and tenderly covers the scars upon her breast—scars which mark the struggles and heart-aches of her children. Time comes when all knowledge of these former inhabitants has been long lost. Comes some archaeologist with pick and spade and uncovers these ruins of buried homes, and from the few relics found therein, with infinite patience and labor, slowly works out the broad out-

lines of the life of these vanished peoples. These relics, in the hands of those who have given to them years of toil and study, become keys to the gateways of a great unexplored region, lying silent and deserted, just beyond the present ken of men. The archaeologist enters the gateway his researches have unlocked. He wanders alone adown the vast silences of the dead centuries, feeling the exquisite thrill which comes only to those who tread where man before has never trod. Some such thrill has come in a small way to the author, who has devoted a large portion of his life to an endeavor to solve the problem of prehistoric man in Tennessee.

Washington, D. C.

THE PIASA PETROGLYPH: THE DEVOURER FROM THE BLUFFS

By TOM ENGLISH

THE mighty Mississippi, Father of Waters, has been unkindly slighted since the old steamboat days. The river that received into its bosom the trunk-hewn coffin of De Soto, and on whose silty current were bourne the canoes of Marquette and the early French explorers, receives from the traveler little more than a passing glance as his train roars over one of the great bridges. Even the glorious race of the Robert E. Lee and the City of Natchez is forgotten on the wharves where Mark Twain used to dock. Yet on the lovely reaches of the upper river still linger tales of bygone wonders which fired the Jesuit with an holy zeal.

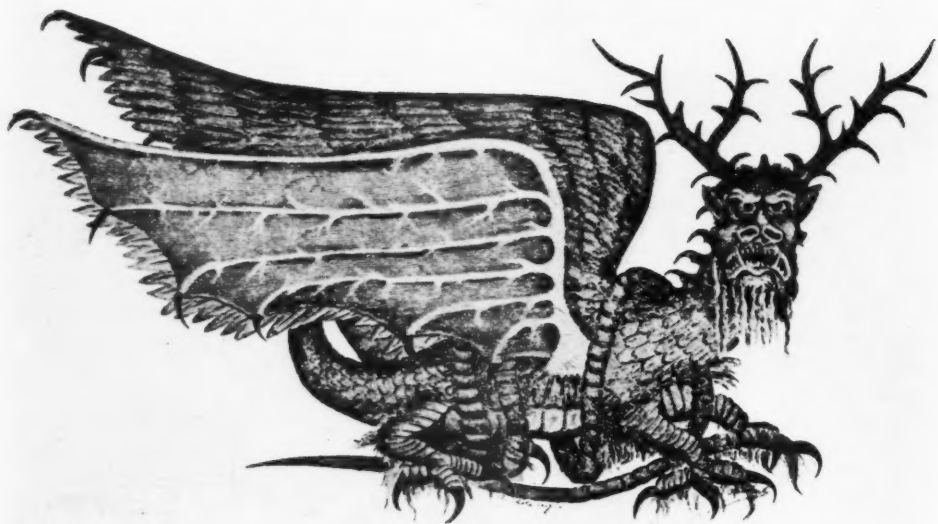
On the right bank as you ascend the river, between the steep old town of Alton, where Lovejoy was shot by the mob, and the mouth of the Illinois, extend the bluffs in a gently undulating line. They rise from a narrow shelf to a height of some hundred feet, half clothed in vegetation, with precipitous faces of creamy limestone above the verdure. On the Missouri shore are low bottom-lands, reaching back several miles to a parallel line of bluffs.

Near the village of Elsah, the bluffs have been carved by the elements into fantastic forms of pillar and bastion, so that on old French maps they are marked "Ruined Castles." Near here a narrow ravine cracks the rock wall, through which flows a little creek. This is Piasa Creek, whose name signifies in the language of the Illini Indians "The Bird that Devours Men." On a smooth face of the bluff at Alton,

eighty feet above the river, in ancient times was carved and painted the representation of a dragon-like monster with outspread wings. This was the Piasa petroglyph, the highest attainment of the early Indian pictorial art.

In June, 1673, Joliet the adventurous trader and Marquette the devoted priest saw it as they passed down on their voyage of exploration. They had been warned by the Indians of the Lakes that "the Great River is very dangerous . . . ; that it was full of frightful monsters who swallowed up men and canoes together; that there is even a demon there who can be heard from afar, who stops the passage and engulfs all who dare approach." Nevertheless they were startled by this evidence of the devil's dominion in the wilderness. Pere Marquette's account is as follows:

"As we coasted along rocks frightful for their height and length, we saw two monsters painted on one of these rocks, which startled us at first, and on which the boldest Indian dare not gaze long. They are as large as a calf, with horns on the head like a deer, a fearful look, red eyes, bearded like a tiger, the face somewhat like a man's, the body covered with scales, and the tail so long that it twice makes a turn of the body, passing over the head and down between the legs, and ending at last in a fish's tail. Green, red, and a kind of black, are the colors employed. On the whole, the two monsters are so well painted, that we could not believe any Indian to have been the designer, as good painters in France



The Piasa (the Russell Version).

would find it hard to do as well; besides this, they are so high up on the rock that it is hard to get conveniently at them to paint them."

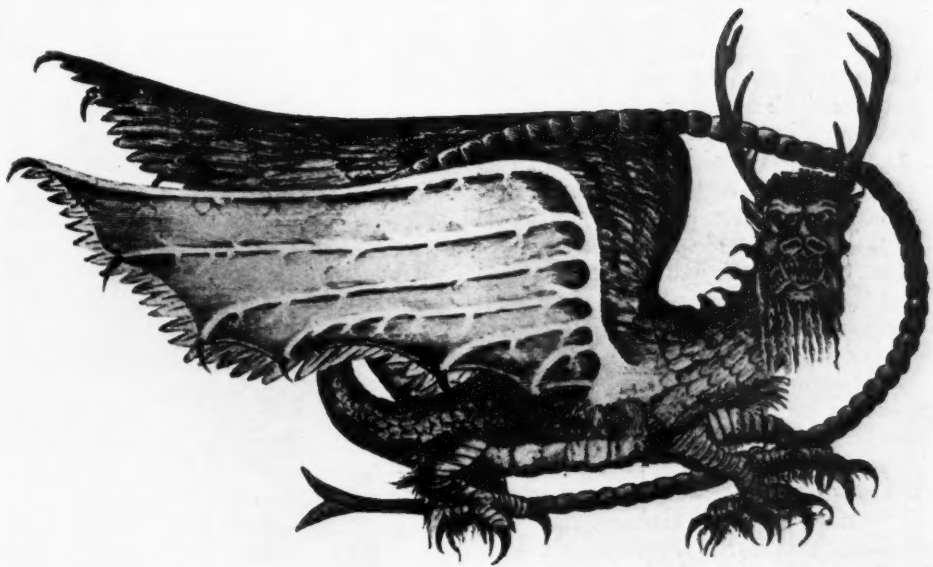
Marquette refers to a drawing he made of them, but it is lost. St. Cosme writes that when he saw them in 1699 they were almost effaced. "Douay and Joutel also speak of them, the former bitterly hostile to his Jesuit contemporaries, charging Marquette with exaggeration in his account of them. Joutel could see nothing terrifying in their appearance; but he says that his Indians made sacrifices to them as they passed."

The last statement is most significant. It is asserted that "an Indian never passed the spot in his canoe without firing his gun at the figure of the Piasa." The pock-marked appearance of the face of the cliff, and the

quantities of lead at its base, corroborated the statement.

The best-known version of the Piasa legend was written in 1836 by John Russell of Bluffdale. His son, S. H. Russell, while a student in Shurtleff College, at Upper Alton, (1849), made observations which I believe are the most accurate recorded. From an article by him, published in 1883, is taken the following circumstantial account:

"My recollection of it is of a picture cut into the surface of the rock to the depth of half an inch or more—had originally been painted red, black and blue, as portions of these colors were still adhering to the rock. The bird, or beast, . . . had the head of a bear, directly facing the river below; the mouth was open, plainly showing large disproportioned teeth. On its head were the unmistakable horns of an elk.



The Piasa (the McAdams Version).

The upper portions of the horns were red, while the lower portions, together with the head, were black. The body was that of a fish confusedly colored with all three colors; it also showed distinctly the marks of scales, resembling in their order those of a fish. The wings were expanded to the right and left of the face, as if in the act of taking flight, extending probably from sixteen to eighteen feet from point to point. The legs were those of a bear, armed with the talons of an eagle. The tail was wrapped three times around the body, twice back of the wings, once forward, terminating in the shape of a spear head. The most prominent features were the wings and head, the latter being covered by a long beard or mane. There was also one other remarkable fact, which has been noticed by all who were familiar with this pic-

ture, that at times it could be seen more distinctly than at others. When the atmosphere was damper than usual, the colors came out plainer; hence it may be inferred that as Marquette passed in June (one of our driest months) the wings were not visible."

William McAdams, an Illinois archaeologist of note, who in 1887 published a book entitled "Records of Ancient Races in the Mississippi Valley," attempted to exhaust local tradition on the subject of the pictograph. Marquette speaks of two monsters painted on the cliff, whereas later observers mention but one. McAdams was unable to find any old settler who had seen more than one, but in his researches he uncovered an old German publication, entitled "The Valley of the Mississippi — Illustrated," published about 1839 in Düsseldorf. One

ART AND ARCHAEOLOGY

of the plates gives a view of the bluff at Alton with the figure of the Piasa on its face. "The account in the German work says the pictograph was growing dim and showed evidence of great age." The figure in McAdams' book is a rather fantastic version of one of the monsters, showing to the left a second face. And just behind the dim outlines of the second face there is a gash in the rock, as though a part of the bluff's face had fallen. Thus the other monster may have been destroyed before the settlement of the Illinois country.

What seems strange is that this drawing was made "some three or four years after John Russell wrote his story of the Tradition of the Piasa" (1836). We know that Russell was a zealous antiquarian, and had he seen this second face it is probable that his son, who shared his enthusiasm, would have mentioned the fact. The evidence of the writings of both father and son, however, is to the contrary. Certainly it had altogether disappeared by 1849. The survivor had become very faint, but was still visible in 1856 or 57, when the bluff was quarried back by lime-makers, and the picture destroyed.

The drawings of the Piasa we possess differ mainly in the details of horns and tail. The two drawings usually figured were made from descriptions, by artists who had never seen their subject, and the better of them is not altogether right. I believe that the painting made under the direction of S. H. Russell was most faithful to the pictograph. From this were reproduced the engravings in which appear the elk horns, and the spear-head tail wrapped three times around the body. The variations of deer horns, and encircling tail ending like a fish's, we owe to McAdams. It may well be that the

similarities between the two are of more importance than the differences. Certainly there are irreconcilable discrepancies of detail between the various descriptions.

Just as authorities do not agree on the details of its appearance, neither do they agree on the size of the petroglyph. It was surely considerably larger than a calf, but one can hardly believe that it was "thirty feet in length by twelve feet in height," the dimensions given in a curious monograph by P. A. Armstrong, entitled "The Piasa, or, The Devil Among the Indians."

The tradition of the Piasa exists in two forms. The Recollect Louis Hennepin mentions one of them in "A New Discovery of a Vast Country in America," in his notice of Marquette's monsters: "There is a common Tradition amongst that People, That a great number of Miamis were drown'd in that Place, being pursu'd by the Savages of Matsigamea; and since that time, the Savages going by the Rock, use to smoak, and offer Tobacco to those Beasts, to appease, as they say, the Manitou."

The legend relates that in the days when the Illini confederacy held all the territory between the Mississippi and Wabash Rivers, a deadly feud sprang up between the powerful tribes, the Mestchegamies (or Michegamies) and the Miamis. The town of the former was near the mouth of the Illinois River, while the latter's was on the site of the present city of Alton. Between the two was a narrow ravine, in which had dwelt for a long time two huge and hideous monsters, compounded of beast, bird, and serpent, which, as they had never molested the Indians, were left undisturbed by them. The hatred of the Miamis for the Mestchegamies

ART AND ARCHAEOLOGY

increasing daily, the former decided to surprise and annihilate their enemies. The Mestchegamies at the same time formed a similar plan, and the warriors of both tribes setting out one morning to attack the other's town before day-break, they met in the ravine of the Piasas. When the foes were brought face to face in the narrow pass, they at once fell to deadly combat. While the equal fight was raging, a frightful noise was heard overhead, and looking up they beheld the Piasas flying down the gorge. With horrid roars and screams they swooped down over the combatants, and each seizing a Miami chieftain in its talons, they flew off. The Mestchegamies, assured that the devourer birds were sent to their aid by the Great Spirit, fell with augmented bravery upon the dismayed Miamis. They drove great numbers into the river, where they were drowned, and massacred many others, the wretched survivors fleeing beyond the Wabash.

Many years later, when the Miamis had settled their score with the Mestchegamies, at Starved Rock on the Illinois, they returned to the bluffs, and found representations of the Piasas engraved on their face. Since they could not reach the pictures to erase them, they discharged their arrows at them whenever they passed by in their canoes.

The Illini tradition is altogether different from that of the Miamis. It relates that at a time when the greatness of the Illini justified their name, which means "real men," a winged monster came to make its lair on the bluffs, of fearful appearance, and so large and powerful that it could seize and carry off in its talons a full-grown deer. But having by some mischance once tasted human flesh, it preyed thereafter on the people, so that vil-

lages were depopulated, and no one was ever free from fear. At length, Ouatogo, a great and good chief of the Illini, sought by fasting and prayer to learn from the Great Spirit how the monster might be destroyed. On the thirtieth night, the Great Spirit appeared to Ouatogo in his solitude, and directed him to select from the tribe the noblest warrior. He should be placed on a height above the river as a sacrifice to the Piasa, while twenty braves concealed in ambush should be ready to send their arrows into the monster's body as it descended upon its prey. Ouatogo gave thanks that a plan of deliverance was granted his people, and offered himself as the victim. He stationed the braves about the base of the cliff, and himself stood on the height. He had not long to wait before the devourer saw him and circled down from the clouds. Ouatogo awaited his fate with calm brow, chanting his death song. Just as the Piasa would have grasped him in its claws, poisoned arrows from twenty bowstrings pierced its breast, and with a wild scream it fell dead. When his warriors reached the summit they found their chief unhurt. Then was there rejoicing throughout all the villages of the Illini, and in memory of their deliverance the figure of the Piasa was painted on the face of the bluff where it was slain.

What did the Piasa mean? The solution has been sought for in the bone-caverns in the bluffs, where the monster was said to devour its victims. The fantastic theory has been proposed that it was the actual likeness of one of the strange saurians whose fossil remains have been exhumed in the West. But I think we may quite simply and surely explain it as a version of the thunder-bird legend, found among all the tribes of Algonkin stock, and widely distrib-

ART AND ARCHAEOLOGY

uted among the North American Indians. According to this myth, the thunderstorm is caused by a great bird darkening the sky with its shadow. The thunder is the sound of the flapping of its wings, the lightning flash is the winking of its red eyes, and the lightning stroke the grasp of its talons. Therefore the Piasa's spreading wings,

red eyes, and eagle-claws. The lightning is further represented by the horns, tail, and the serrations of its neck and wings. Undoubtedly the legends may be roughly worked out on the basis of this explanation, and thus this masterpiece of aboriginal art may come to possess a real significance.

Princeton University.

THE FLINT MAKER

By HARTLEY B. ALEXANDER

For him the dump stone is no blind thing—
Jasper and agate and flint,—
But a jewel and a tool and a mined thing
Cast in the Earth-Maker's mint.

He has uttered a prayer at the quarry;
He has smoked him a smoke for its soul;
A spell he has chanted before he
Has pried out his gem from the bole,—
A spell he has chanted, and chanting
How Earth with God's thunderbolts quaked
When of old the keen lightnings fell slanting,
He has chipped and has splintered and flaked
His mallets and arrows and lances,
His knives and his scrapers of stone,
His tools, his adornments, his fancies,
From the rocks by the Ancient One sown.

For to him the dump stone is no blind thing—
Jasper and agate and flint,—
But a hammered and wrought and refined thing,
Living within, and the glint
Of the crystals he turns in his quarry,
Of the gems that he pries from the bole,
Of the flint-sparks that fly from the core he
Knows are the fires of God's soul.

University of Nebraska, Lincoln.

NOTES FROM THE GALLERIES

CHICAGO

Old Spanish Rugs at the Art Institute

An "anonymous friend" who recently dismantled his villa in Southern Spain, has sent to the Art Institute of Chicago his priceless collections of European and Oriental art, and here they will be on display for a year or more. The exceedingly difficult task of arranging together harmoniously objects so diverse as a Manet painting and a T'ang bronze has been well accomplished. There is no effect of incongruity in the three galleries occupied by the exhibition, but rather a subtle relationship which emphasizes the interplay of influence between Occident and Orient.

In the central gallery where the room has been furnished with chairs and couches of the Italian Renaissance, and the walls have been hung with Beauvais and Brussels tapestries, the floor is adorned with the most beautiful and important collection of Spanish rugs in the country. Mr. O. S. Berberyan of New York, an authority in the matter of antique rugs, is responsible for the statement that no such assembly of rugs could have been put on display by the South Kensington Museum, the Victoria and Albert Museum and the Hispanic Society of America combined. Mr. Berberyan is preparing for the owner of the collection, a catalog de luxe, which when it is finished will be an invaluable text-book for collector and connoisseur, and which has furnished much of the data for this article.

The fact that this collection in Chicago contains two of the oldest existing specimens of Spanish rugs leads us to review briefly the history of rug-making in Spain.

From a very early date rugs were manufactured in Spain by Moorish weavers, and their quaint designs, mingled with a native Gothic tradition, formed the foundation for Spanish rug-weaving. There were, however, other influences which were almost contemporary, and with which one must reckon if one is to analyze these alluring fabrics.

Taking as the first source of design the native tradition, we must count as a second the Turkish and Caucasian influences. With the return of the earliest traders from Asia Minor, tales of wealth and luxury fired the imagination of Spanish merchants, and soon the trade routes along the Mediterranean, neglected since the fall of Phoenicia's prowess, began to be furrowed by the keels of Spanish ships. Textiles and carpets brought into Spain from the Caucasus and from the Turkish looms came as a revelation to the western weavers, and furnished them with a new source of design.

The third source of influence was supplied when a trade route was discovered around the Cape of Good Hope, to the Persian Gulf. Now from Ispahan and Herat the most gorgeous products of the Persian looms began to arrive in Spanish ports. Persia was already far advanced in the textile arts. She had developed a classic tradition based on many centuries of more primitive design. The subtle, conventionalized beauty of her patterns slowly mingled with the archaic simplicity of the Spanish imagination.

The two oldest rugs in this collection, and in fact two of the very oldest in the history of Spanish rug-making, were made in 1450 in the convent of Santa Clara in Palencia, Spain. They are companion-pieces to three larger rugs that bear the coat of arms of Admiral Enríquez, grandfather of King Ferdinand of Castile. They were exhibited at London in 1895 under the patronage of the Queen Regent of Spain, and again at an exhibition of Mohammedan art in Munich in 1910.

These two rugs are alike in general appearance but quite different in detail. The outer border of each bears a design in Kufic lettering, but while in No. 1 it is well defined, it is highly conventionalized in No. 2. As a border design for rugs, Kufic lettering is known all over the Near East. We find it first in the rugs of the Museum at Ala-ed-din in Koniah, which are said to date from the 13th century. It figures widely in Persian miniatures of the fourteenth century, and in the borders of early Turkish rugs. The letters originally spelled the words "Allah-il-Allah" but they have been changed somewhat for the sake of the pattern. This border design from the Near East has been developed in a typically Spanish way with little palmetto flowers crowning the shafts of the letters, and conventionalized peacocks, panthers, and rosaces filling in the spaces between. There is also a motive which may be a weaver's comb and which may be a five-fingered hand warding off evil spirits. In the border of rug No. 2 is a very interesting object,

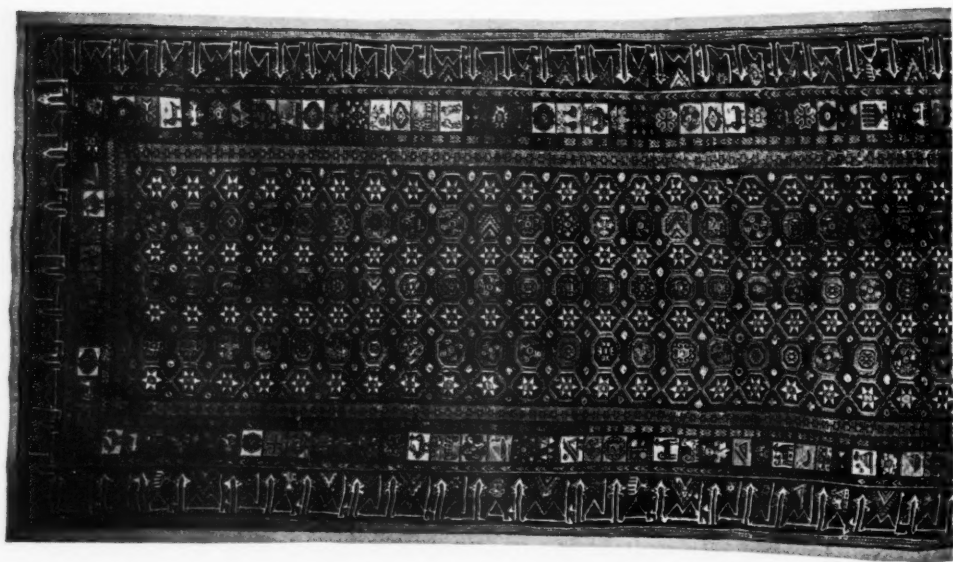


Fig. 1. A rug made in 1450 for Admiral Enriquez, grandfather to King Ferdinand.

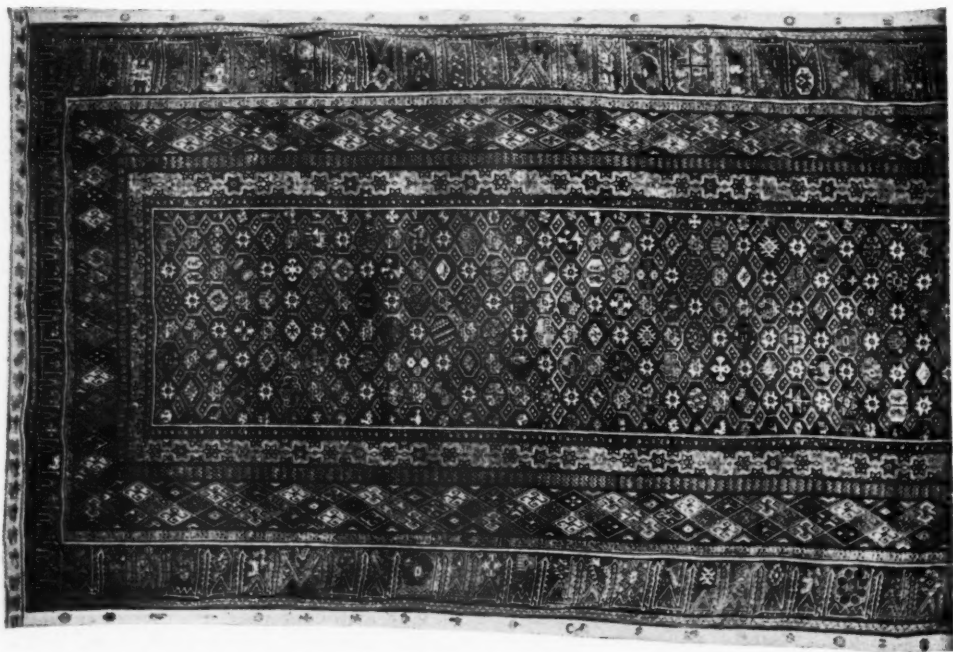


Fig. 2 Companion piece to rug No. 1. The Kufic lettering of the border is more highly conventionalized than in its mate.

ART AND ARCHAEOLOGY

a tree with four horizontal branches, bearing the Spanish peony. This is the predominant motive in the oldest Spanish rug in existence, now in the Museum of Berlin.

Of the various types of old Hispano-Moresque rugs, only three have survived, the "tree-and-palmetto-flower" type, the octagonal star type, and the all-over tile pattern. Rug No. 1 is of the tile type with an all-over pattern of hexagonal and octagonal tiles set together with a dumb-bell shaped motive between. Within each of the hexagonal tiles is the six-pointed star, but the eight-sided tiles have any number of quaint and amusing devices. Apparently they were chosen as fancy dictated for they have no geometrical arrangement. They may, however, have been endowed with a cabalistic significance. Between the main border of the rug and its inner field is an inner border divided into squares. In each square is an ornamental motif and of these the quaint rectangular animals are the most interesting. In their naïveté of design these animals strongly resemble those found on Caucasian rugs of a later date. There is also an ancient Oriental motif, two animals facing each other in profile. An eagle with two spread wings is borrowed from Byzantine fabrics. A cross with splayed ends brings in the Christian element and is suggestive of the treatment of the cross motif in the military orders of Spain.

In both these oldest rugs the colors are pale tan and red, colors which we find in all Hispano-Moresque rugs and which are now the national colors of Spain.

Rug No. 2 has as its main ground a tile pattern which consists of octagons connected by lozenge shaped bars. The alternating diagonal rows of octagons contain the six-pointed star, which was a cabalistic symbol in both Mohammedan and classic art, and the rows between the stars contain many diverse motifs, the most interesting of which is a female figure representing a dancer. There is also a design consisting of a center column with two rampant lions, the heraldic emblem of Christian Spain. This design is several times repeated.

Even if the evidence of the designs and details were lacking there could be no doubt of the early Spanish origin of these rugs. Their color, their manner of knotting, and their elongated shape are all conclusive proof.

Technically, Spanish carpets are divided into three groups, the knotted or pile carpet, the hooked or looped carpet made by drawing silk or wool yarns with a hook through a canvas background, and embroidered carpets, sometimes done in needle-work and sometimes braided as in the Sumak carpets. Some of the most beautiful examples in the present collection are of the needle-work type, made during the sixteenth century. One of these, a magnificent altar-carpet (No. 3), is a companion-piece to a rug in the Victoria and Albert Museum, though in the London specimen the two end borders are missing. This carpet is of a particularly pleasing design. The border has a sober and dignified arrangement, but the central field is filled with all sorts of leaping and running animals. The central medallion is made up of a lobed polygon, two sixteen-pointed stars, an octagon, an octagonal star and a small center rosace, superimposed one upon the other. This idea is borrowed from an old Persian carpet. The famous animal rug in the Boucquoi collection in Vienna, and a fine woolen carpet formerly in the Yerkes collection show almost the same design. Above and below this medallion are huge fleur-de-lis of decidedly Renaissance design, while on either side are many small animals of Spanish-Christian design without Oriental influence. However, to the right and left of the rampant lions below the fleur-de-lis are birds in vaguer colors that are of a very primitive type and Oriental in design.

These naïve and delightful animal and bird motives we find later in all the arts and crafts of Renaissance Spain. In this particular rug the exuberance with which they are sprinkled through the pattern is so overwhelmed by the strong central design of medallion and fleur-de-lis that no effect of crowding is produced. Especially interesting is the border in this rug in which two influences are mingled. The triangular divisions and the vases are adopted from Italian Renaissance brocades while the carnations in the vases are of Turkish textile origin, being found especially in Scutari velvets.

The hooked or looped type of rug is represented in the collection by two silk and wool rugs made near Grenada, and one of coarser weave made in the mountain country and called "Alpujarra." A carpet which comes outside the three classifications is made of linen appliqué. It was purchased near Tarragona and is almost identical with the design of the tracery in the Tarragona Cathedral. The date is embroidered on the reverse side, "ano de 1763." A heraldic carpet of heavy wool embroidery bears the eagle adossé and square shield of Charles V on a rich orange field.

ART AND ARCHAEOLOGY

Certain general characteristics distinguish the Spanish rug from the Persian or Turkish product. Among these are the extreme length and narrow width of the early woven specimens, the square shape of the needlework rugs, the similarity in color between the design and the central field and the fact that each rug seems to have been designed for some especial purpose: church, monastery, palace or public building. The arrangement of this particular exhibition is made all the more interesting by the presence of Persian examples, rugs and hangings made in Utrecht, Holland, under Spanish dominion, and beautiful carpets of arabesque patterns from Asia Minor.

JESSICA NELSON NORTH.

SUMMER EXHIBITIONS

Lyme, Connecticut

One of the oldest and most important of the summer exhibitions in the vicinity of New York is that at Lyme, Connecticut, whose Art Association is this year holding its twenty-first annual exhibition. The new home of the Association, designed by Charles A. Platt, was opened last summer. It is situated on the Boston Post Road, so that thousands of visitors will stop during the course of the exhibition, from August 5 to September 5.

Guy Wiggins, whose progress during the last few years keeps us watching him with a great deal of interest, is represented by "Pleasant Valley," which depicts the undulating floor and wall of hills with firmness and strength. Bruce Crane sends a lyrical Autumn subject with soft gray tones prevailing, while Ernest Albert glorifies the Winter season in one of his well-known snow pictures. Will Foote's Bermuda scene is full of color and fine in spirit. Edward Rook has sent a beautifully painted still life of grapes which is rich and deep in tone.

Wilson Irvine, whose Connecticut landscapes were shown in New York last winter, is represented by a large and finely painted hill subject with luminous color and finely drawn trees. Robert Vonnoh's landscape exemplifies the deft touch and facility of execution which are characteristic of his work. Carleton Wiggins, William H. Howe, Henry R. Poore and Matilda Browne have all elected to paint cattle, and a very interesting group of pictures is the result. Percival Rosseau, painter of hunting dogs, is represented by a typical subject, full of sympathy for canine alertness. Will Chadwick, Frank Bicknell, Everett Warner and William S. Robinson are also represented.

HELEN COMSTOCK.

Newport, R. I.

The Newport Art Association also opened a new gallery last summer. The exhibition this year is their eleventh, opening July 16 and extending until August 12. A large main gallery provides room for the larger works, while smaller and more intimate rooms house the smaller exhibits. Oils, water colors and sculptures are shown, giving a comprehensive idea of what contemporary American artists all over the country are doing.

The Howard Cushing Memorial Gallery is having two auxiliary exhibitions during the course of the summer. The first of these, a group of oils by Leslie P. Thompson, lasted during the first of July, while the second, a loan exhibition of wood block prints from the Brown-Robertson Gallery in New York, extends through the first part of August. These wood blocks come from seven countries, and while English and American subjects are in the majority, there are some from such remote places as Czecho-Slovakia, five of whose engravers are represented. Henri Wils of Holland sends four prints, while Italy has four participants and Japan two. One of the Japanese artists, Usushibaia, has departed from the traditional themes of his country and given us a print in color after Frank Brangwyn's "The Bridges"—an evidence of the growing international influences which are drawing the artists of all lands together.

The majority of the French engravers have sent prints after famous French paintings instead of creating their own designs, as the English and Americans prefer to do. The English lead numerically, being twenty-one. Among them are John Nash, Margaret Pilkington, E. Y. Brinton, Robert Gibbings, Sydney Lee and Ada L. Collier. The Americans, who number seventeen, include John R. Bacon, Robert Warren Keith, John Held, Jr., Horace Brodzky, Blanche Lazell, and Elizabeth Colwell.

HELEN COMSTOCK.

New London, Conn.

Maurice Braun's exhibition of last month at the Brater Galleries in New London, Connecticut, and his promised exhibition for New York this fall are something in the nature of a home-coming—in spite of the fact that he returns to the East with a full-fledged reputation

ART AND ARCHAEOLOGY

as a Western painter because of his twelve years' residence in California. His student days, however, were spent in New York, and in 1900 he won a Hallgarten prize at the Academy. His later honors came to him in the West, whose dramatic landscape he has portrayed in the canvasses which represent him in the San Diego Museum and in the Municipal Collection of Phoenix, Arizona.

The small paintings and sketches which formed his New London exhibition were, with two exceptions, Connecticut landscapes. Mr. Braun has been painting for several months in the vicinity of Silvermine, where he has recorded the progress of spring and summer since the first stirring of buds and leaves, a phenomena of which he is keenly aware after the entirely different changes of the California seasons. There is something in the lyric and intimate beauty of the Eastern landscape that has evidently stirred him keenly, while he is also capable of interpreting the majestic and monumental beauty of the West.

One of his impressions of the first promise of spring is in "The Edge of the Woods," which depicts a row of bare trees screening a meadow bathed in sunlight. Although there is not a sprig of green to be seen, there is something in the fresh color that tells of the first stirring of life in field and forest. This picture is also noteworthy because it shows Mr. Braun at his best in the drawing of a tree. To think of his pictures in retrospect invariably recalls the beauty of the tall, slender, gray trunks with their firm uplifted branches which he presents with an insistent faithfulness to line and structure.

Although Mr. Braun more frequently paints a landscape that takes one into the heart of the woods, far from all signs of human habitation, "The River" is an exception. In this picture a group of old mill houses are seen on the far side of the water, mirrored in the calm water. Throughout the whole picture is an air of peaceful seclusion from the rest of the world, with a stillness unbroken save for the very gentle wind that ruffles the water.

The two western subjects are so typical of the artist's treatment of a radically different landscape as to deserve especial mention. One is a bit of coast near San Diego and the other a mountain scene near Silverplume, Colorado. The latter affords a particularly interesting contrast with the pictures of the Eastern group. The clear mountain air demands that the artist secure an entirely different effect from that required by the more pronounced atmospheric conditions of the lowlands. The mountains stand out boldly with a clear definition of form as far as the eye can see, while the Connecticut meadows veil themselves in faint mists which are not their least charm. Mr. Braun's pictures of East and West are extraordinarily true to these differences of aspect.

The paintings which the artist will show in New York in the fall will be larger versions of these high-keyed, delightful impressions of Connecticut, but one cannot help but hope that some of the Western canvasses will also be included, for it is not often that one finds an artist who interprets East and West with equal understanding and sympathy.

HELEN COMSTOCK

Nanuet, New York

The summer exhibition of the Nanuet Painters is to be sent through Rockland, Orange and Bergen Counties, New York. The opening will be at Goshen on August 22, where the show will remain for two weeks and then go to Nyack and Nanuet.

The Nanuet Painters are working in the historic country which skirts the Tappan Zee, on the west bank of the Hudson opposite Tarrytown, about thirty miles from New York City. A truly American school is being evolved here which encourages individualism and which imposes no rules or formulas on the members of the group. They share with their predecessors in much the same region, the artists of the Hudson River School, an enthusiasm for the beautiful landscape of this country, although in their spirit and approach their pictures are thoroughly modern?

John E. Costigan and William H. Donahue, have adopted a brilliant and unusual technique by which pure and broken color is superimposed and juxtaposed with a novel manipulation of palette knife and brush. Costigan's "Girl and Goat," which represents him in the present exhibition, is a version of one of his favorite themes—a thicket with the light filtering through the interlacing twigs and branches. The dots and dashes of color seem to be applied almost indiscriminately, and yet the fact that they are used with rare discrimination is attested by the firm underlying structure and feeling for form that is maintained throughout. Donahue's

ART AND ARCHAEOLOGY

manner of painting is related to Costigan's, but has certain differences resulting from the artist's own individual style. There is a softness and mellowness about his work as well as glowing depth of tone that is exemplified in his "June Idyll," which pictures the rush of a swollen stream over its pebbly channel and by mossy rocks.

Frances Keffer has painted a number of colorful, sunny Holland pictures, among which her "Dutch Sunshine" is one of the finest, if for no other reason than the way in which she has painted the dark, clear, and very wet water of the canal. Sara Hess dips her brush in radiant yellow in her "Golden Tree." She always achieves a fine effect of distance in her pictures, gained with the seeming ease which only the skillful have mastered.

The pictures by Daniel Kotz and Albert Insley, who were pioneers in this section of the country when Inness and Wyant were painting there, show traces of the spirit of these older masters even while they have incorporated many of the newer methods of painting.

The sculptors of the Nanuet group also find most of their motifs in this countryside. Carl A. Heber, whose modeling is always firm and sure, contributes a delightful "Pastoral." Ida Costigan's touch is definite and vigorous in "Old Annie." Another interesting work is George Lober's "Snake Charmer."

The Nanuet Painters sent a traveling exhibition through the Middle West last spring which was shown at the Milwaukee Art Institute, the Hackley Gallery at Muskegon, Michigan, in St. Louis and at Seymour, Indiana. The regular New York City exhibition of the group will be held at the Babcock Galleries in December. Plans are under way to send an exhibition to Europe next year.

HELEN COMSTOCK.

Salem, Mass.

While not in the nature of a "summer exhibition," it seems timely to mention a newly acquired portrait which the Essex Institute at Salem, Mass., is exhibiting. This is a recently discovered portrait of Nathaniel Hawthorne by Henry Inman. It fills a long-felt want in the Institute since heretofore there has been no portrait of the author in this collection of the city of his birth. It is especially interesting, too, because it presents him at the age of thirty-five, nine years earlier than any of his other portraits. It shows him wearing a heavy moustache, which he had removed when Osgood painted him in 1840, though the thick wavy locks, made familiar by other portraits, are much in evidence.

It seems that this picture was in the collection of the artist's son, John O'Brien Inman, and was sold by his heirs. The picture recently found its way to a New York art dealer. A catalogue of the sale at which the painting was offered reached Henry Belknap, secretary of the Institute, but it was too late to take any action before the sale. He kept track of the picture, and found that it went to another New York Gallery. In the meantime a good friend of the Institute very opportunely came forward with a liberal check for the purpose of enabling the organization to make just such purchases when the opportunity arose. The picture, in consequence, has now very appropriately found a home in the city so indelibly associated with the great author's name.

Just where and when the portrait was made can not definitely be determined, although it was no doubt painted in either Boston or Salem. Inman was in Boston in 1835, the year the picture was painted, and the two may have met through Manasseh Cutler Torrey, a native of Salem and pupil of Inman, or perhaps through Thomas Doughty or Washington Allston, since these two were friends of both author and painter.

Henry Inman was born in Utica, N. Y., in 1802. He showed a marked talent for art while quite young and apprenticed himself to John Wesley Jarvis, with whom he toured the country from Boston to New Orleans. When his apprenticeship was over he went to New York, and so strongly identified himself with the development of art in that city that when the National Academy of Design was founded he became its first vice-president, an office he held until he moved to Philadelphia in 1832. A period of ill health led his friends to urge him to go abroad, hoping the change would be of benefit. He left for England in 1845, and while there painted portraits of Wordsworth, Macaulay and Dr. Thomas Chalmers. He died in 1846, not long after his return to this country. One of his finest portraits is that of Martin Van Buren, which is in the Metropolitan Museum, while his "Mumble the Peg" is in the Pennsylvania Academy. The Hawthorne portrait is a splendid example of his work, being vigorous in style and fine in color.

HELEN COMSTOCK.

ARCHAEOLOGICAL NOTES AND COMMENTS

American School at Athens Notes

By permission of Dr. Henry S. Pritchett, Acting President of the Carnegie Corporation, ART AND ARCHAEOLOGY is able to publish the following letter, in which Mr. Elihu Root, Chairman of the Board of Trustees of the Corporation, notified the Prime Minister of Greece of the appropriation which the Corporation has made for the building of the Gennadeion in Athens:

CARNEGIE CORPORATION
522 Fifth Avenue, New York

June 6, 1922.

His Excellency,
The President of the Ministerial Council,
of the Kingdom of Greece.

Sir:

I have the honor, on behalf of the Trustees of the Carnegie Corporation, formally to make known to Your Excellency and your associates of the Ministerial Council, that the Carnegie Corporation has voted an appropriation of \$200,000 to the American School of Classical Studies at Athens for the erection of a building to accommodate the Library and Collections which his Excellency, Mr. Joannes Gennadius, citizen of Greece and Dean of the Greek Diplomatic Service, has recently presented to the School.

The Corporation was moved to make this contribution, not only by its deep interest in the American School, which we are happy to think worthily represents American scholarship in the capital of Greece, but also by the desire to make prompt and adequate recognition, on the part of America, of the remarkably generous, public-spirited and enlightened act of Mr. Gennadius. We cordially sympathize with his twofold purpose—both to enrich the scholarly resources of his native country for the use and benefit of the scholars of all nations who resort to Athens for the study of the Hellenic civilization and at the same time to promote and confirm the long-time friendship between the peoples of Greece and the United States of America by means of a visible monument in Athens and a continuing beneficent stream of influence flowing from his foundation. We trust and believe that this purpose will be realized.

I take this occasion to express to Your Excellency our appreciation of the fine spirit of cooperation which the Greek Government, on its part, has manifested in undertaking to assist the American School to procure, as a site for the Gennadius Library, the tract of land adjacent to the present property of the School. It was with full knowledge of your generous action, and in the confident belief that it would speedily be crowned with success, that our Trustees have made the grant for the erection of the building.

Accept, Excellency, the assurance of my distinguished consideration.

Sincerely yours,

(Signed) ELIHU ROOT,

Chairman of the Board of Trustees.

The Greek Government had already taken steps to provide the site for the Gennadeion, as is shown by the following message to Dr. Gennadius:

ATHENS, May 14th, 1922.

MINISTRY OF FOREIGN AFFAIRS:

Replying to your report and to the telegraphic messages connected therewith, and congratulating you heartily on the gift, so conducive to our national relations with America, which you made of your rich Library to the American Archaeological School in this city, we have the honor to inform you that we have taken the necessary steps with the Ministry of Education for the concession of the plot of land applied for by Mr. Hill and destined for the erection of the institute of international studies.

We shall communicate to you in good time every relative decision arrived at, so that you may be informed.

G. BALTAZZI,
Minister of Foreign Affairs.

ART AND ARCHAEOLOGY

First Indian Fair at Santa Fe

The First Annual Southwest Indian Fair and Industrial Arts and Crafts Exhibition, limited strictly to Indian entry and competition, and participated in by the various tribes and pueblos of the southwest, will be held at Santa Fe in September. Local Indian fairs have been held on reservations and at some of the county fairs in New Mexico there have been exhibits of Indian handiwork, but nothing of the scope and character of the exhibition herein contemplated has ever been witnessed in New Mexico or Arizona.

The objects of the exhibition are encouragement of native arts and crafts among the Indians; to revive old arts; to keep the arts of each tribe and pueblo as distinct as possible; the establishment and locating of markets for all Indian products; the securing of reasonable prices; authenticity of all handicraft offered for sale and protection to the Indian in all his business dealings with traders and buyers.

The exhibition is the outgrowth of ideas advanced several years ago by Miss Rose Dougan of Richmond, Indiana, who has interested herself in a practical way in Indian handicraft and has tendered an endowment from the income of which some of the prizes offered are in part derived.

Mr. Lansing B. Bloom, Assistant Director of the State Museum, will have charge of all exhibits, and has been appointed superintendent of exhibits. All exhibits must be delivered to him at the state armory, Santa Fe, not later than Saturday, September 2, 1922.

Archaeologists Take Up Work in Tigris and Euphrates Valleys

Archaeological investigation of ruined cities in the valleys of the Tigris and Euphrates, begun about the middle of the last century, and which suffered a brief set-back during the World War, is now proceeding with increased success, according to Dr. Frederick A. Vanderburgh, lecturer in Semitic languages at Columbia University. Much of the material, discovered just as the war was commencing, he says, is only now being assimilated.

"The results have been wonderful and such as to aid very much in supplementing the records left to us by the Greek historians and the writers of the Old Testament. The faulty chronology of Western Asia that had come down to us has now been checked up to a point of accuracy.

"One of the most interesting of late discoveries is the Assyrian law code, having similarity to the Babylonian code of Hammurabi, which embraces in its codification ancient Sumerian family laws."

The Summer Session of Colombia University had a course in archaeology, dealing with the newer discoveries, as affording material for revising the history of Western Asia, a course which Dr. Vanderburgh characterized as valuable to Bible students and those about to visit Palestine and adjacent lands.

Legends of Carthage Declared to be Myths

French archaeologists declare that sufficient excavations of the ancient city of Carthage have now been completed to upset the accepted history and many beliefs about its foundation and origin. Mr. Icard and M. Gielly, who last January unearthed a Punic temple, have now ample evidence of the ancient existence of a temple dedicated to the Egyptian deity Tanit, including votive jars containing the bones of sacrificed infants.

Archaeologists are now certain that Carthage was not of Phoenician, Chaldean or Greek origin, but put the city's birth back to the epoch of the Trojan war, instead of at 800 B. C. The legend of Dido about the founding of the city on Byrsa hill is also upset by evidence that the original site was a mile distant from the hill.

Egyptians Had Fine Surgeons in 1700 B. C.

Egyptians as early as 1700 B. C. were able to perform surgical operations as intricate as many accomplished by modern surgery. Skulls were opened and the contents examined, fractures were set and many other operations believed to be comparatively modern were carried out.

These revelations were made lately in an announcement by Prof. J. H. Breasted of the University of Chicago of a preliminary translation of an Egyptian papyrus believed to be more than 3,600 years old.

ART AND ARCHAEOLOGY

"I expect that it will take at least two years more for a full translation," he said. "The papyrus is the oldest ever found which treats of medical science."

Feats of science now considered extremely hard to perform are described in full in the papyrus.

Pictures of 200 A. D. are Found in Syria: Ancestry of Byzantine Painting

According to a report by Professor J. H. Breasted, of the University of Chicago, the ancestry of Byzantine painting, hitherto somewhat obscure, was discovered while hostile forces were closing in on the investigators in Syria. Professor Breasted's report is about to be presented to the French Academy of Science.

The investigation was made under his direction after the return of the Mesopotamian expedition of the Oriental Institute of the University of Chicago and its arrival in Bagdad late in April, 1920. The British civil authorities at this time asked Professor Breasted and his party to ascend the Euphrates to a ruined Roman fortress at Salihyah, on an informal archaeological expedition on their behalf.

It developed that while the British forces had occupied the ruined fortress, Captain M. C. Murphy had discovered in a chapel in the ruin some wall paintings evidently of ancient origin.

The chapel was seen by the investigators to have been the temple not only of Roman legionaries but likewise of some Oriental cult. This appeared from the character of the paintings, some of which had to be uncovered by cleaning rubbish which had accumulated in the ruin. One of the paintings appeared to show a local Oriental family at worship, another showed a group of Roman soldiers worshiping before images of the deified Emperors. The Oriental personages portrayed had hands upraised in a gesture recognized as one employed in Eastern religious rites; among them was a gorgeously dressed woman thought to be a local ruler such as Zenobia, the famous queen who defied Rome. The name inscribed beneath her figure resembled in form that of Zenobia, who ruled Palmyra, only 100 miles away.

"That we have in these wall scenes an example of the mostly lost ancestry of Byzantine painting is evident," said Professor Breasted, "from comparison of them with the early Mosaics surviving at Ravenna. This ruined Roman fortress at Salihyah has thus furnished a new and unparalleled example of the transition from decadent Orientalized Hellenistic art to the Byzantine art from which reviving Europe inherited so much."

The party concluded that the probable date of the paintings was the third century, "when East and West met in Syria."

The XX International Congress of Americanists

The following are the titles of papers read by the American delegates at the sessions of the XX International Congress of Americanists in Rio de Janeiro, August 20-30: Ales Hrdlička: "The Newest Development Relating to the Origin and Antiquity on this Continent of the American Indian"; Walter Hough: (1) "Ethnography of the Herndon and Gibbon Exploration of the Amazon in 1851"; (2) "A Classification of American Fire Myths"; Gilbert Grosvenor: "The Functions of the National Geographic Society"; Peter H. Goldsmith: "American Indigenous Contributions to the Spanish Language"; Sylvanus G. Morley: (1) "The Chronological Yardsticks of Ancient America"; (2) "Tulum, An American Troy"; Herbert J. Spinden: "Relative Chronology of the New and the Old World"; Mitchell Carroll: "Aboriginal American and Mediterranean Bronze Age Architecture, a Comparative Study."

The X International Congress of Architects

The X International Congress of Architects will be held in Brussels, September 4-11, 1922, under the auspices of the Société Centrale d'Architecture de Belgique. The Congress, which will include delegates from all friendly countries, will be held under the distinguished presidency of M. Gerault, Member of the Institute of France. Among the subjects for discussion are, the responsibilities of the architect, the profession of architecture: its aims and its rights, women architects, town planning, and the preservation of prehistoric monuments. An architectural exhibition, both Belgian and foreign, will be held during the Conference. The permanent committee of the Congress includes the following members from the United States: Cass Gilbert, Chairman, Francis R. Allen, Glenn Brown, Wm. Rutherford Mead and George Oakley Totten, Secretary.

BOOK CRITIQUES

An Introduction to the Study of Landscape Design. By Henry Vincent Hubbard and Theodora Kimball. New York: The Macmillan Co. \$15.00.

Although this sumptuous volume is entitled an *introduction* to the study of Landscape Design, it is more, as it is a complete resumé of the whole art of landscape architecture, dealing with the subject from all sides, the theory, the various problems of landscape characters, the natural forms—hills, valleys and rivers—ledges, shores, planting, parks and private estates.

No better definition of the subject could be given than that of Charles W. Eliot. He says: "Landscape architecture is primarily a fine art and as such its most important function is to create and preserve beauty in the surroundings of human habitations and in the broad natural scenery of the country; but is also concerned with promoting the comfort, convenience and health of urban populations, which have scanty access to rural scenery and urgently need to have their hurrying, workaday lives refreshed and calmed by the beautiful and reposeful sights and sounds which nature, aided by the landscape art, can abundantly provide."

The profession of landscape architect is a comparatively new one in this country, but tremendous progress has been made in these few years. Witness the improvement in our cities, our civic plans, public parks and lovely gardens and grounds that surround the American homes.

There is a great movement everywhere even for reservations of outlying land that goes beyond the public parks of the cities proper. Extended driveways along river or lake shores, or country roads, is part of the beautiful scheme that this study of landscape work evolves.

Then the planting of trees and shrubs, their arrangement to complete the artistic design, has reached a most perfect development. One very particular charm in the work is the far-reaching effect. The pleasure, joy and content that it is possible to give a limitless number of persons, is an important factor.

An architect may build a beautiful house that is satisfactory to a family, but the landscape man may develop the grounds about that house, or a park that will be seen and enjoyed by hundreds of passers by.

The authors begin with some of the older styles of landscape design, the Moorish in Spain, where still remain a few of the famous gardens; the Italian Renaissance villas, the

grounds full of their lovely fountains, terraces, statues and picturesque stone steps; then the English country estates of formal plan as well as the charming country cottages.

The American Society of Landscape Architects was founded in 1899, the first degree for a collegiate course in landscape architecture was granted in 1901. Now degrees are offered by six institutions in the United States, proving the importance of this line of study. The book deals with the subject of the profession, its possibilities and the increasing demand for experts.

The wealth of illustration throughout the volume consists of charming drawings by the author, Henry P. White, A. B. LeBoutillier, H. G. Ripley and others and a series of beautiful photographs.

The whole is a rare and beautifully written treatise and an invaluable contribution to the growing library on the subject. There is a list of references on landscape architecture very complete, general and specific, and a helpful bibliography.

Mr. Hubbard, as Assistant Professor of Landscape Architecture of Harvard University, and Miss Kimball, Librarian of the School of Landscape Architecture, know their subject as few can know it.

HELEN WRIGHT.

The Van Eycks and their Followers. By Sir Martin Conway, M. P. New York: E. P. Dutton & Company, 1921. \$15.00.

The writer of this most complete history of Dutch Art, of the Van Eycks and a crowd of followers, the average student of the subject scarcely knows by name, published in 1886 a set of lectures, "Early Flemish Painters," that he had delivered as Professor of Art at Liverpool. He writes of the kind reception this volume has received by a small and appreciative group of persons. He prints a letter received at the time from his "beloved friend" Professor John Ruskin, which is not the least interesting part of the book, and one feels sure that the eminent art critic would have written even more enthusiastically of this later, fuller work.

He says: "Dear Conway. I am altogether and all round delighted with your book. The plates are perfection. The text seems to me as right as right can be and deeply interesting. The little golden block on cover is as beautiful as old work. Could your binder do a dozen for me in strong morocco or in white vellum? I'll pay for the strongest and prettiest binding you can devise with him, for presentation copies

to schools. Ever your entirely pleased and affectionate J. R."

The book describes the work of all the known artists of the Low Countries down to Bruegel and connects the artistic product with contemporary social movements. It contains thirty-two full chapters and nearly one hundred illustrations.

The writer begins with the Gothic school, when "no age except in the great days of Greece was the out-put of humanity more wonderful, more splendid than in the Gothic period," when the great cathedrals with their hundreds of carved figures over sculptured portals raised high their perfect pinnacles. Then follows the Mystics, who awoke to the actuality of life, when lines were more flowing, light and spaciousness, even picturesqueness, was the trend of architecture. The "Virgin smiles and the Child lovingly strokes her cheek."

In the latter part of the 14th century and the beginning of the 15th, the Dukes of Berry and Burgundy, collectors and patrons of Art, had made for them the wonderful Books of Hours, illuminated by the masters with exquisite miniatures, bound in gold and jewelled bindings—cherished now in a few great public and private Museums and collections.

There has been no art more interesting more quaint, yet of the finest technique, than that of the Low Countries, the impressive and stately altar-pieces painted by Hubert van Eyck and his brother John, full of figures of Knights, Saints, Christ and the Virgin—characterized by a spiritual symbolism.

Roger van der Weyden, Dirk Bouts, Hugo van der Goes, Hans Memling, the later Bruges, artists, then Quentin Massys, Jerome Bosch, Mabuse and many others—whose work is only brought to record by the most careful study and infinite research. Peter Bruegel is the last of the artists listed, a great man, a very great man, he stands at the end as the Van Eycks at the beginning of a series of artists who expressed the glory of the Netherlands. He was one of the world's great painters and ranks with the foremost of every age.

"He stands as much alone in the mid-sixteenth century as the Van Eycks at the beginning of the fifteenth, giants all three, opening and closing the long procession of lesser men who connected them."

Sir Martin Conway is one of the most distinguished of Englishmen, professor, lecturer, explorer and surveyor of the Himalayas, antiquarian, traveller all over the world, director and founder of clubs and societies—has still had time to write graphically not only on his explorations but many delightful books on Art.

HELEN WRIGHT.

Printers

OF HIGH-GRADE
MAGAZINES,
SCIENTIFIC
BOOKS, AND
COMMERCIAL
WORK

□□□□□

Gibson Bros.

INCORPORATED

1312 Eye St. N. W.

WASHINGTON, D. C.

Established 1862

ART AND ARCHAEOLOGY

And many other high grade
magazines, catalogues and
booklets are printed with
Doubletone INKS (registered
trade mark) made only by—

THE SIGMUND ULLMAN
COMPANY

Park Avenue and 146th Street
NEW YORK CITY

Yale School of the Fine Arts
YALE UNIVERSITY, NEW HAVEN, CONN.
 SERGEANT KENDALL, Director

**Departments of Drawing and Painting,
 Sculpture, Architecture**

Classes in Composition, Anatomy, Perspective
 Lectures on the History of Art

The Degree of Bachelor of Fine Arts (B.F.A.) is awarded for advanced work of distinction.

The Winchester Fellowship and the English Scholarship for the study of art in Europe and School Scholarships are awarded annually.


Illustrated Catalogue

**THE
 School of Industrial Arts**
TRENTON, NEW JERSEY
 Frank Forrest Frederick, Director

Courses, leading to Diploma awarded under the authority of the State of New Jersey, including a course for the training of the

ARTIST—ARTISAN
 In Clay, Wood or Metal

Over a thousand students. Send for illustrated circular.



**THE ENGRAVINGS
 FOR ART AND ARCHAEOLOGY
 ARE THE EXCLUSIVE WORK OF
 THE STANDARD ENGRAVING CO.**

**THE EXPRESSION OF YOUR BOOK
 OR ADVERTISEMENT IS FIRST
 REGISTERED IN PICTORIAL ART
 THAT WILL CONVEY YOUR THOUGHT
 CLEARLY. AS SPECIALISTS IN
 DESIGNING AND PHOTO-ENGRAVING
 WE ARE FULLY CONSCIOUS OF
 THESE FUNDAMENTAL PRINCIPLES**

STANDARD ENGRAVING CO.
 1212 G STREET, WASHINGTON, D. C.
 HALFTONES, COLOR WORK, LINE PLATES

Let 'Er Buck—A Story of the Passing of the Old West. By Charles Wellington Furlong. With 50 illustrations taken from life. New York: G. P. Putnam's Sons, 1921.

Here is the story of the passing of the Old West, profusely illustrated from photographs of bucking horses, cow-pony races, roping wild steers, bull-dogging Texas longhorns, Indians, cowboys, and old-time scouts as seen at the famous annual cowboy carnivals, the Round-Up, held in Pendleton, Oregon, each September. The author himself understands intimately the Round-Up as participant, not merely as observer, and it is from personal experience as well as acquaintance with the most famous personalities in this annual revival of the practices and sports of the Old West that he tells this thrilling tale. "Let 'Er Buck" will delight every American who loves out-of-door life and real sportsmanship, and is interested in the pioneer civilization of the Pacific Northwest.

An introductory word is furnished by George Palmer Putnam, to whose personal encouragement and practical cooperation the author attributes the inspiration for writing the book. Charles F. Lummis says of the people of the Southwest that they believe in "catching their archaeology alive." This is what Mr. Furlong has done for us in epitomizing the range life of the pioneer, the cowboy, the Indian of the old-time, but changing West, now all but disappearing below the horizon of time. It is a great thing to be the Homer of the Wild West, but the series of thrills this book gives fairly entitles Mr. Furlong to the honor of being so designated as the author of this Epic Drama, portraying cowboy and cowgirl buckaroos—steer bulldogging—bucking contests—riding outlaw horses—the cowboy and Indian Grand Mounted March and the color-reeking Indian ceremonial dances, all features of the Pendleton Round-Up. Mr. Furlong is artist and photographer as well as writer, and many of the wonderful illustrations are from his own camera. These pictures, with the appended story so thrillingly told, are the most graphic feature of the book, and supplement the dramatic narrative.

Theodore Roosevelt would have been "dee-lighted" with this volume, so distinctly American in subject, spirit and character with a kick in every picture and a punch in every sentence. The reader will derive from it a bigger, finer feeling toward life, and a warmer sympathy for the rugged pioneers who struggled against unequal odds to attain the Winning of the West.

M. C.

